G. R. S. IX-5]

Previous references.

1972.

(Legis)

File No. 40-12

Serial Nos. 1-2.

Later references.

Legis & 11-20.

GENERAL AND REVENUE SECRETARIAT.

Serial Nos. 1 to 20

Part B for July 1920

SUBJECT.

Introduction of the Indian Electricity Rules, 1911, to the C & R. States Bangalore

---

(20) To the F.A. Resident in Mysore

No. Pol. 827 & 29. 1. 20

States that the Durbar proposes to nominate Messrs. H. L. Forbes & K. P. Puttanna Chetty as its representatives for the Committee to consider the Indian Electricity Rules with the Hon'ble the Resident &c.

WD 2233—GPB—20,000—14-6-20

G.R.S. 111

1912-13

GENERAL AND REVENUE SECRETARIAT.

(Legis)

NOTES.

File No. 40-

FILE HEADING.

Introduction of the Indian electricity Rules, to the C & M Station, Bangalore

From

The J. A. Resident

No. 2967 ated 16/5/13 Received 19/5/13

Diary No.	Enclos.	Spare Copies.	Serial No.
J 3312			

BRIEF ABSTRACT OF LETTER.

Requests to be ~~informed~~ favoured with the views of the Darbar as to the advisibility of applying the Indian Electricity Rules, 1911, to the C&M Station Bangalore

NOTES AND ORDERS.

Submitted with a draft to the Chief Engineer requesting him to favour Govt with his views in the matter. The file regarding the introduction of the Electricity and the Rules &c. are in the P. W. Secrtt

(58) 20/5/13

2) Please see draft

21/5

NOTES—First Sheet.

GPB—30,000—27-6-11

R. S. 12]

General and Revenue Secretariat.

Legis File No. 40 of 1912-13.

Serial No.

3.) Forwarded unofficially to the Chief Engineer in Mysore for favour of opinion as to the advisibility of ~~extending~~ applying the Indian Electricity Rules, 1911, to the C&M Station Bangalore

By order.

Jt Secretary to Govt.

General and Rev Depts

2 no f. 06

4.) Forwarded, with compliments, to the Chief Electrical Engineer to the Government of Mysore, for favour of report and obliging early return

Under Sec to the Govt of Mysore,

Bangalore, 4-6-1913

NOTE—Contn. sheet.

GPB—65,000—17-6-12

G. R. S. 12]

3312

General and Revenue Secretariat. | Legs File No. 40 of 1913-14

Serial No.

Unoffl No. 21 P.W.D Dated 28th January 1914

5) Returned with compliments to the Secretary to Government, General and Revenue Departments.

6) 2. The Government had agreed to supply electric energy to the Civil and Military Station, Bangalore, under the Indian Electricity Act, 1903, (III of 1903) This Act having been repealed by Act IX of 1910, the First Assistant to the Hon'ble the Resident stated that it was desirable to apply the latter Act to the Civil and Military Station, and wanted to know what modifications the Durbar would suggest in the matter of its application.

Legs 30/1

7) In reply, the Residency was informed that the Durbar had no modifications to suggest.

8) 3. The question for consideration is whether or not it would be advisable to apply to the Civil and Military Station the rules issued by the Government of India under Notification No.107, dated the 23rd December 1910.

9) 4. The rules framed are in accordance with a certain section of that Act and Section 102 authorises the Local Authority to relax the rules in any particular case. Under this section the Durbar may claim any relaxation of the provisions in accordance with the suggestions of the Chief Electrical Engineer.

10) Having once agreed to the introduction of the said Act without any modification, it is a ~~ques~~

NOTE—Contn. sheet.

3PB—60,000—7-11-13

G. R. S. 12]

3312

General and Revenue Secretariat. | Legis File No. 40 of 1913-14

Serial No.

question whether any objection can now be raised on the ground that it is not suitable to the Electrical Department.

11) 5. The question of the introduction of the Tramways Act is being dealt with separately.

12) 6. Letter No.266 dated the 17th July 1913 received from the Chief Electrical Engineer, together with a copy of the draft rules framed by him, is also forwarded, for such action as Government may wish to take.

H. Krishnaiyar

Offg: Secretary to Government,
P.W.Department.

Bangalore,
28th January 1914.-

To

The Secretary to Government
of Mysore, General & Revenue Department
Bangalore

13) Submitted

(48) 14) The opinion of the Secy to Govt. PWD may be accepted
10/4/14 the Resr informed accordingly

15) Dy Secy) draft may be passed
7/3

Legis

NOTE—Contn. sheet.

PB—60,000—7-11-13

3312

G. R. S. 12]

General and Revenue Secretariat. | Legis File No. 40 of 1912-13

Serial No.

1) Submitted with two drafts.

(GB)
12/3/14 NM.

Dr Secy) SDR 12/3

1) The chief Engr. (S) does not say whether any relaxations are needed at once. A short draft as revised by me may perhaps be sufficient. If so a tidy draft may be put up Secy 16/3 SDR

1a) Submitted with tidy drafts.

(GB)
17/3/14 NM.

Dr Secy) SDR 17/

First Member) Draft as rev 17/3 SR

1) It will hardly do for us to demur to the rules or to say that Govt of India shd alter these rules to suit our practice.

2) I glanced over both the draft but could understand little of them. We may add in our letter to the Residency that our Electrical department has been working under certain rules which are

NOTE—Contn. sheet.

GPB—60,000—7-11-13

G. R. S. 12]

General and Revenue Secretariat. | File No. | of 191

Serial No.

now being ~~Colb~~ Compiled & that it would be most inconvenient if there should be any ~~import~~ appreciable difference betn rules applied in the city & those applied in the C & M Stns, and that therefore a relaxation should be granted under Rule 102, so as to allow the same rules to be uniformly employed in both places. Another Commn on the subject may be promised.

21) The Bk. El. Supt may be asked to furnish his Compilation, to carefully compare it with ~~Cantonment~~ Rules of the G. D. and

NOTE—Contn. sheet.

GPB—60,000—7-11-13

G. R. S. 121

33/2-12

General and Revenue Secretariat. | Leg. | File No. 40 of 1912 13

Serial No.

to let us know clearly in what respects the exemption required shd be asked for. We must then write to the Resi- dency again.

13/4/14 Draw 14/4

22) 14/4 Revised drafts accdy SDR 14/4

23) Submitted with revised drafts (48) 20/4/14 NLL

Please submit on 27th or 28th April

1.5.14

24) Both the drafts may be approved

First Member

SDR 1/5

Draw as flow 5/5

25) Draft approved

9559 11.5.14

Draw 9/5

8/5/14

NOTE—Contn. sheet.

26) Draft to H.H.

GPB—65,000—17-8-12.

27) Issue SDR 19/5

Draw 19/5

G. R. S. 12]

General and Revenue Secretariat. | Legis File No. 40 of 1912-13

Serial No.	
2	No Pol. 936 dated 22/5/14 to the F. A. Resident informs that if the Indian Electricity Rules have to be introduced into the ~~Govt~~ C & M station a relaxation will have to be granted under rule 102 so as to permit of the application of the same set of rules both in the city and in the C & M station of Bangalore.
3	No J 3504 dated 27/5/14 to the Chief Engineer in Mysore, Bangalore forwards copy of the above and requests him to forward proposals as to the nature and extent of the exemptions that are deemed necessary under rule 102 of the Indian Electricity Rules proposed to be introduced into the C & M station.
4	No J 1529/2833 dated 3rd March 1915 From the F. A. Resident With reference to Sl 2 informs that by Notification No 4 J 22/1/1915 the Indian Electricity rules with certain modifications have been modified slightly ~~have been extended to the C & M station~~ Bangalore.
22	Subd. for kind perusal. ~~A draft reminder to~~ A draft to the

NOTE—Contn. sheet.

GPB—60,000—7-11-13

G. R. S. 12]

2833
3765

9

General and Revenue Secretariat. | Legs File No. 40 of 1912-13

Serial No.	
	Chief Engineer communicating to him this information and also requesting him to expedite the submission of the amendments required in the rules is put up.
	3/4/15 29) Issue
6	~~No 366/C.P.S. dated~~
5	No J3395 dated 6th April 1915 to the Chief Engineer in Mysore, Bangalore Informs him that the Indian Rules ~~have been modifications~~ as noted in Govt of India Notn No 4 (P.W.D.) dated 22nd Jany 1916, ~~have been introduced into the C & M Station~~.
6	No 366/C.P.S. dated 29th May 1915 from the Chief Engineer in Mysore Bangalore. Forwards a draft set of Rules prepared by the chief Electrical Engineer for adoption in the C & M Station, Bangalore, as the Indian rules ~~were introduced there~~ are not suitable
3)	Submitted.
	1/6/15

NOTE—Contn. sheet.

GPB—60,000—7-11-1

3-165

10

(R. S. 12]

General and Revenue Secretariat.

Legs File No. 40 of 1912-13

Serial No.

31) The abstract of the S'l 4 in the notes is incorrect No rules have yet been introduced into C&M stations. Please put up draft to the Residency that the accompanying Rules may be ordered to be introduced into C&M stations. If the Residency agree, then the Rules may be printed and supplied to the Contractors

Legs 96

Es 2/6/15

32) Subd. Pencil corrections have now been made in the abstracts A draft to the Residency is put up as ordered. Para 3 of the letter under disposal has not been touched upon in the draft as the Indian Electricity Rules have not been ~~applied into the~~ introduced into the C&M Stations yet

2/6/15

33) Submitted for approval

Es 9/6

Secy (First Member)

Decision of Govr 10/6

34) We have told the Residency that we shall have to ask for a relaxation under Rule 102

NOTE—Contin. sheet.

GPB—25,000—2-11-14

3765

11

G. R. S. 12]

General and Revenue Secretariat. | File No. | of 191

Serial No.

This rule says that relaxation may be granted in respect of provns in rules 35 & 100 Are the alternative rules now proposed only in respect of these provns? If not, we shall not be consistent with our previous attitude?

35) How is it made out that the Electricity Rules are not yet introduced into the C & M Sts?

3/7/15

5/7 8/5/7

NOTE—Contn. sheet:

GPB—25,000—2-11-14

3765

12

G.R.S. 13]

Routine Notes.

[To be used only for notes, requisitions, etc., not intended for permanent record.]

Subd.

36) As regards the 1st 2nd part of members queries on the file, ~~Rule 102 of the Indian Electricity~~ Rules the enclosed D.O. and reply thereto shows that the new Indian Electricity Rules are not yet introduced into the C&M Station and that what is now in force there is the old Rules introduced ~~in~~ under the old Act in 1905.

8/7/15 As regards the 1st part the Electrical Engineer has to be asked to state whether the new rules are those intended to be introduced instead of rules 35 to 100 of the Indian Rules or whether they go beyond those rules.

8/7/15 37) Please put up draft to the Electrical Engineer suggested

6/7/15

N.B.—Should routine notes be written on small slips, the notes must be copied, or slips pasted on this form.

G.P.B.—50,000—29-6-14

G. R. S. 12]

J3765-14

General and Revenue Secretariat.

Legis File No. 60 of 1912-13

Serial No.	
38)	Subd. with a draft to the Chief Engineer P.W. Deptt as the rules ~~have~~ were ~~been~~ received through him 7/3/16 9141
39)	Done 8/3/16
7	W. J3617 dated 8/3/16 To the Chief Engineer in Mysore P.W. Deptt Enquires if the draft rules confine themselves to ~~the provisions~~ introducing necessary amendments in the provisions of rules 35 to 100 of the Indian rules or go still further
8	W. 914 dated 5th February 1917 From the First Asst to the Resident Invites the views of the Durbar on the ~~proposal~~ suggestion of the Dt Magistrate of the C & M Station for the appointment of an Electric Inspector for the Station.
40)	Subd. No reply has been received from Chief Engineer on the enquiry made about the draft rules sent by him The first enquiry from the

NOTE—Contn. sheet.

GPB—70,000—17-12-15

J3765
J1763

14

G. R. S. 12]

General and Revenue Secretariat. | Legis File No. 40 of 1912.

Serial No.

Residency as ~~this~~ to the views of the Durbar on the question of introducing the Indian Electricity Rules to the C & M Station is still pending unanswered The Residency have now called for the opinion of the Durbar on the question of the appointment of an Electric Inspector for the C & M Station. May the Chief Engineer be requested to favour Govt with his opinion on this question and also asked to reply to this office No J 3617 & 8/3/16 ~~2nd~~ on the other point A draft letter is put up

Sub A

6/4/17

41) Done

9 To. The Chief Engineer 2

No J 2854 10th Feb. 17

Calls for his opinion on the question of the appointment of an Electric Inspector for the C and M Station Bangalore and invites his attention to Sl. no. 7.

NOTE—Contn. sheet.

GPB—70,000—17-12-15

WD 1233—GPB—60,000—1-12-16—S.

G. R. S. III-2]

General and Revenue Secretariat. | Legs File No. 40 of 1912

Serial No. 10

No. 400/C.P.S. dated 27/4/17
from the Secretary to Govt. P. W. Dept.
Forwards copy of the Chief Electrical
Engineer's letter on the subject of the
appointment of an Electric Inspector
to the C & M Station and states that the
Chief Electrical Engineer may be
invested with the powers of
an Electric Inspector

42) Subm. with a draft to the Resident for approval.
8/5/17

43) Done
9/5

3102
14.5.17

This Member) 44) Draft approved — the Rules
framed by the C. E. Engineer can
be amended if he may be required to extend
their operation until further orders

12/5

Draft 14/5

Draft approved
14/5

45.

6566
15.5.17
(Draft appd)

Done
14/5

45.
Yes — certainly
18.5.17

Do

Done 21/5

11 To the U. A. Resident. 47. Issued
21/5

No Pol 1163 22-5-1917

States that the Durbar are of opinion

NOTE—Contn. sheet.

Serial No.

that the chief Electrical Engineer may be invested with the Powers of an electric Inspector for the Cauvery station Bangalore.

48. Subd. with a draft reminder to the Chief Engineer as ordered in para 46 supra.

22/5/17

49. Dmy 28/5/17

12 To,

The Chief Engineer in Mysore Bangalore.

No J 4265 25. 5. 1917

Request to furnish the information re the draft rules under the Electricity Regulation without further delay.

13 No. 4800 dated 22nd June 1917 from the ~~Chief~~ J.A. Resident in Mysore forwards copy of letter No 3570 dated 16/6/17 from the 2nd Magistrate C & M Station Bangalore to the J.A. Resident informing that there is no necessity for appointing an Electrical Inspector for the C & M Station

50. Subd. for information. No further action seems to be necessary on this point. As regards the rules under the Indian Electricity Act ~~the draft dated~~

WD 1233—GPB—60,000—1-12-16—S.

2755
9435-19

G. R. S. III-2]

General and Revenue Secretariat. | Legs File No. 40 of 1912-13.

Serial No.

referred to by the Residency in 51, the information called for from the Chief Engineer has been promised to be sent by him in a week or two. Its receipt will be awaited

21/8/17.

Destroyed. Rem.

Sub. No 6406 dated 22/8/17 From the P. A. Resident

51 Forwards a reminder to this office Confdl. correspondence ending with No 929 S/1573/16 re the question of applying to the C&M. Station of Bangalore, the Indian Electricity Rules.

52 Sub. with a letter to the Chief Engineer informing him that no inspector of Electricity is required for the C&M Station and also reminding him about the reply called for by the Residency on the question of applying to the C&M Station the Indian Electricity Rules

29/8/17

53. Issued

P. T. O.

NOTE—Contn. sheet.

943 18

D 1233—GPB—60,000—1-12-16—S.

G. R. S. III-2]

General and Revenue Secretariat. | Legis File No. 40 of 1912

Serial No. Rem 13 124

To, The Chief Engineer.
No 678 Dt 25-8-1917
Requests to expedite the Submission of the draft Rules with the information called for in this office No J 3617 dated 8th March 1916. Legis 40-12-7

From the Chief Engineer
No 931/C.P.S Dt 18/10/17
Informs that the set of rules as revised by the Chief Electrical Engineer has just been received by him and is being scrutinised.

Destroyed (Reply to Remr)

Submd. for information. May a reply be sent to that effect to the Reminder from the Resident (No 6406 Dt 22/10/17)
19/10/17

Submd. with a draft to the Resy
The rules proposed have not been received from the P.W. Secretariat yet
10/11/17

Submd. Some days may pass before draft reminder to the Chief Engineer

Issued No Pol. 649 dated 12/11/17 to the F.A. Resident

Destroyed

NOTE—Contn. sheet.

WD 1233—GPB—60,000—1-12-16—S.

G. R. S. III-2]

General and Revenue Secretariat. | Legis File No. 40 of 1912

Serial No.	
58.	Subd. with a draft to the ~~Chief Engineer~~ Secretary to Govt P.W.D
	23/11/17
	Irene Lodge Examd
	Reminder issued vide No J 1763 dated 24/11/17
60.	Subd. The usual printed reminder was again sent on 22/12/17 but no reply has been received till now. May a D.O. reminder be sent now. A draft is put up
	4/1/18
61.	Irene Examd
	Reminder issued vide No J 683 dated 16/5/18
	Reminder No P 3596 dated 21st May 1918 from the T. A. Resident
62.	Subd. A D.O. reminder was sent to the Chief Engineer on 16/5/18
	22/1/18
63.	Please put up another draft D.O.
64.	Subd. with a draft D.O. reminder
	23/5/18
65.	Irene Examd
	Reminder issued vide No 697 dated 17.7.18

Subd. This file has been kept under orders of reminder. No reply has yet been received.
8/7/18

NOTE—Contd. sheet.

16/7

1149

G. R. S. III-2j

General and Revenue Secretariat.

Legs File No. 40 of 1912.

Serial No.

L. 1149

From Mr. R. V. Sundaram Iyer

Do No. C.P.S 523. Dt 18/7/18

States that the Electricity Rules are ready & that they will be submitted in a week's time

Subd 66. A. D. O. to Mr R.V. Sundaram Iyer is put up as no reply has yet been received as promised

MVR 23.8.18

23/8/18

67. Issue

Extract from Sus. Register 'A' of the Legis Section

68. "Enquire as to when the draft may be expected which was promised (mention do subd)

Subd 69. A. Draft. D.O to Mr R.V. Sundaram Iyer is put up as directed.

70. Issue

MVR 7-9-18

Recd G.S 1774/18

Sus A 1149

7/9

10/9

15

From the Secy. P.W.D

No. C.Ps 657 Dt 12-9-18

Forwards a draft of the rules in vogue in the Mysore State, and which the Chief Electrical Engineer proposes for adoption in the Civil & Military State

NOTE—Contn. sheet.

1141
1239

G. R. S. III-2]

General and Revenue Secretariat. | Legs File No. 40 of 1912

Serial No.

71. Subd with draft to the Resident

MBR 18-9-18

72. In favour of approval

18/9/18

Es 20/9

Chief Secretary)

73 Please type draft as revised & submit to Extra Member & Secretary

Sd 21/9/18

Sd 19/9

74) Subd The typed draft is put up.

MBR 26.9.18

75. The chief Secy has initialled the typed draft

76) In appron

24/9

Es 25/9

963-233
25-9-18.

Extra Member
Joint Member) 77) Subd

[redacted]

78) [redacted] The recommendations of the Ch. E. E. are acceptable to me

1452/30.9

Resd 26.9.18

79) Chief Secy 30/9/18

NOTE—Contn. sheet.

WD A 1789—GPB—60,000—20-3-19—S.

G. R. S. III-2]

General and Revenue Secretariat. | Legs File No. 40 of 1912

Serial No.	
	2/1 Subd. This has to be submitted to the Dewan as per chief Secretary's note vide in the margin in the last page CJ 3/10/18 CJ 6/10/18 81) In approval Dewan)
2071 9-10-18	82) Draft approved by Dewan. CJ 10/10/18 18-11-18
	83) Issue 21/11
	84) Subd with a draft to the Ch. Engineer requesting him to prepare a copy of the plan for forwarded to the Residency Hg. 2-12-1918
Sw 3.12 11/12	16 To the F.A.R Pol 771 of 8-2-19 05) Doms 9/12 Forwards a draft of Rules which are in force in this State and Commends for the consideration of the Hon'ble the Resident the formation of a Committee to deal with the question

NOTE—Contn. sheet.

WD A 1789—GPB—60,000—20-8-18—S.

G. R. S. III-2]

General and Revenue Secretariat. | Legis File No. 40 of 1917.

Serial No.

16 L

The J.B.R. No 1951 dt 7/11/8 2-19
forwards Copy of Rules proposed for
adoption in the C & I. Station &c.

17 From

The J. A. Resident-
No 6897 dt 8-9-19.
forwards copy of letter
No 5-7308 dt 21-8-19 from the
Collector, C & I Station requests
that information asked for therein
may be furnished

86) Srikd. The views of the Brothers
were called for on the advisability
of introducing the Indian
Electricity Rules as enacted
by the Govt of India under
Act IX of 1910.

87) The Chief Engr. was consulted
and opportunity was taken to
urge that the Rules might be
relaxed under the provisions
of Rule 102 so that the rule
obtaining in C & I Station
might be extended to those
in the city

P. W. D
I

NOTE—Contn. sheet.

WD A 1789—GPB—60,000—20-3-18—S.

G. R. S. III-2]

General and Revenue Secretariat. | Legs. File No. 40 of 1912

Serial No.

~~Rule~~ Rule 102 is said to provide only for the relaxation of rules 35-100 the draft rules suggested by the Chief Electrical Engineer for adoption in the station are related to go further than ~~rules~~ rules 35-100.

(88) The question of introducing the draft rules proposed by the Chief Electrical Engr into the Canteen ~~has to the~~ ~~of the Indian electricity~~ rules has to be considered by the committee already proposed.

A draft reply to the Resy is put up for consideration and orders

~~(89)~~ (89) As the rules suggested by the Chief Electrical Engr go further than rules 35-100 which alone can be relaxed under rule 102, it ~~is a matter for consideration~~ they are in effect new rules suggested for adoption in C. & M. Stations

(90) As seen from the correspondence

NOTE—Contn. sheet.

G. R. S. III-2]

General and Revenue Secretariat. | Legs File No. 60 of 1912.

Serial No.

H.M

it has been the intention of Govt to suggest suitable rules for adoption in the C & M Station so that similar rules may obtain both in the city & the station & is not therefore clear whether the chief electrical Engineer's idea is in suggesting the formulation of an Electricity Act for the Station in para 13 of his note. The file may therefore be referred unofficially to the Chief Engr. for favour of throwing some light on the matter

H.Z

9) The nominees of the proposed committee have also to be decided upon The collector C & M Station has proposed major A.J. Andrews as a nominee of the C & M Station The nominee of the Mysore Govt & the name of third member to be mutually agreed upon have to be proposed

Submitted for orders

Sd
17/9/09
Asst
15/9

'Massed bring up in person

Sd
17/9/09

NOTE.—Contn. sheet.

Sd
15/9

4701

G. R. S. III-2]

General and Revenue Secretariat. | Left File No. of 1912

Serial No.

92) Sent with a draft to the Resy as per oral instructions

Orders have to be passed on the points raised in para 91 supra

8/11/19. 93) Please put up clean or typed copy as revised

To M. 8/11

94) A typed copy is put up.

8/11/19. 10/11/19

95) Submitted a draft up to the Residency for Consideration To represent the Govt & the Committee Mr Jobes or any other officer has to be suggested As regards the third member to be mutually agreed to, some 3 or 4 names may perhaps be suggested for the Consideration of the Residency

Submitted for orders

To M. 13/11

Chief Secy

96) Mr Jobes may represent for it will be desirable to have one with a knowledge of law & the

NOTE—Contn. sheet.

WD A 1789—GPB—60,000—20-3-18—S.

G. R. S. III-2]

General and Revenue Secretariat.

Legs File No. 60 4701 of 1912-13

Serial No.

Committee. Mr Justice Doraisamy may maybe suggested

2nd member
1st member
Dewan

2335
15-11-19

Sd
14/11/19
D. M.
14/11

97) Sapru. Name added see sentence in his draft to meet his point raised by his colleague Ch Mahadeva

Sd
17/11/19
D. M.
19/11

3417-71.
19.11.19.

98) I agree to the draft.

99) I do not think there is libel by any - I presume that there is no technical objection to a Judge of the Ch. Court being one of the members of the Committee.

Sd
8.12.19

DEWAN'S OFFICE.
Recd. on DEC 9 1919
Reg. No. 3874

100) I should suggest Mr Hy Bertram name of Counsel & Mr Ramaswami Sastri Advocate-General who may if necessary be associated with Mr Bertram

Sd
13.12.19

Please put up Off. A.-G. Counsel
Mr K. P. Puttanna Chetty

D. M.
15/12

NOTE—Contn. sheet.

WD A 1789—GPB—60,000—20-3-19/

G. R. S. III-2]

4701 / 1265

General and Revenue Secretariat. | Legs. File No. 60 of 1912.

Serial No.

102) Subd. with a draft D. O to the Dewan Bahadur K. P. Puttanna chetty

Sd 18-12-19 Asst 19/12

103) Draft D.O sent to Chief Secy for signature

D. M. 25-1-20

To

18 Dewan Bahadur K. P. Puttanna chetty Esqr

D.O. No. 74874 dt 2nd January 1920

Requests to intimate whether he is willing to serve as a 3rd member to the Committee to consider the legislation

19. From Dewan Bahadur Mr. K. P. Puttanna chetty, C.I.E

dt 3-1-20.

States that he is willing to serve on the Committee

104) Subd for perusal & orders

Sd 6-1-20 Asst 6/1

105) May draft letter to the Residency issue

Chief Secy D. M. 7/1

DEWAN'S OFFICE.
Recd. on JAN 24 1920
Reg. No. 5008

2nd member } Yes
1st member } Dewan

106) Subd 13/1/20

107) Subd

3552 / 15.1.20

H652-160 / 21.1.20

108) Secy Revd 23.1.20

109) Secy 26.1.20

20/1/20

D. M. 23/1

110) Issue

Secy 26/1/20

D. M. 27/1

NOTE—Contn. sheet.

12765

G. R. S. III-2]

General and Revenue Secretariat. | Legis File No. 40 of 1912.

Serial No.	
20	To The H.A. Resident in Mysore No. Pol. 827 Dy 29th January 1912. States that the Durbar proposes the names of Messrs: M.L. Forbes & K. P. Puttannachetty as its representatives for the consultation re: the Indian Electricity Rules with the Hon'ble the Resident.
112)	Sealed No. reply has been received to the above communication. Orders are solicited if a Reminder may issue to the Resy.
113)	Gpo. Mano put up draft
114)	Draft submd In view of the fact that the question was at first referred to the Durbar by the Resy it is a point for orders if the Reminder has to issue
115)	If above, this will go depn
116)	Chief Secy

SECRETARIAT 2 FEB 1920

SECRETARIAT III PROTECTION BRANCH JUL 1920

B 14/7

NOTE—Contn. sheet.

Pol & Sec 1943 16.5.13.

No. 2967.

3312

1912-1913
SECTION Legis
FILE No. 49
SERIAL No. 1

FROM

P. B. WARBURTON, Esq., I. C. S.,
FIRST ASSISTANT TO THE RESIDENT IN MYSORE.

To

The Dewan of Mysore.

Dated Bangalore, 16th May 1913

SIR,

With reference to the correspondence ending with this office endorsement No. 6269, dated the 19th October 1911, regarding the application of the Indian Electricit Act, 1910(IX of 1910) to the Civil and Military Station of Bangalore, and to entry No. 81 of the First Schedule to the Notification of the Government of India in the Foreign Department No. 732D, dated the 19th March 1913, on the same subject, I am directed to request that the Resident may be favoured with the views of the Darbar as to the advisability of applying to the Civil and Military Station, in supersession of the existing rules, the rules issued by the Government of India under Notification No. 107 dated the 23rd December 1910

"Copy forwarded with this office endorsement No. 2962 dated 16th May 1913."

Vide Resident's Notn. No. 4069, dated 29th July 1905

Vide page 1236 of part I of the Gaz. of India dated 24th Decr. 1910

I have the honour to be,

Sir,

Your most obedient servant,

P. B. Warburton

First Assistant Resident.

O. 2.—R. P. B.—3-1913.—1,500.

5 2/5

2 drafts revised

G.R.S. 26]

Lg. File No. 40-1
Serial No. 2

Diary No. of letter replied to

Pol No. 936

General and Revenue Secretariat

the *19*

To

The F. A. Resident
in Mysore, Bangalore

Sir

Issue 22.5.1914

Signed by Sir D. M. Narasimha Raj

Adverting to your letter No 2961 dated 16th May 1913 requesting to be favoured with the views of the Darbar as to the advisability of applying to the C & M Station, in supersession of the existing rules, the rules issued by the Govt of India under Notn No 10)

over.

SUBJECT.

dated 25th Dec; 1910, I am
directed to ~~acquaint~~ State you as
follows:-

The Electrical Inspector
~~of~~ of this State has
been working under
certain rules which are
now under compilation.
~~being prepared~~ and
will be ready
in a few days if there should
be any difficulties between
the rules issued by the
Inspector of this State, it is
requested, to interview
the Chief Station
~~Master~~ and ascertain if the
Inspector rules have
to be included with the
Chief Station, & rules which
will have to be specially
made under rule 102 ~~thereof~~
and to ~~allow the~~ permit
~~it lawful to~~ working
both in the city & the Cantonment
~~together in the place~~.

permit of the officiating
of the same set of rules
both in the city and
Cantonment Board

List of enclosures,

Copied by

Examined by

GPB—10,000—28-2-11.

G.R.S. 27]

GENERAL AND REVENUE SECRETARIAT.

(Continuation sheet draft form.)

A further communication in the matter shewing in what respects relaxation of rules ~~have to be granted~~ may be required will be made in due course.

I have &c.

Secretary to Govt

16.8.14.

20/4114

2 drafts revised

G.R.S. 26]

Legis File No. 40-12
Serial No. 3

Diary No. of letter replied to

No. 3804 Encl 8

General and Revenue Secretariat
( )
, *the* 19

To

The Chief Engineer in
Mysore, Bangalore

Issue 27-5-14

Signed by Mr S P Rajagopalachari

Sir

I am directed to
forward herewith a copy
of this Office letter No
Pol 936 dated 22 May 14 to the
First Assistant to the Hon'ble
the Resident in Mysore in
the matter of introducing
the Indian Electricity Rules,
1911, into the C & M Station Bangalore
and to request you to

over.

Leave the number and date of the Residency draft after issue will be entered.

SUBJECT.

complete the compilation
of the Rules & Regulations
to be issued pursuant to
powers in this Act and
also, ~~to execute~~ effective
carrying into operation
the provisions of the
Indian Emigration Act, 1922, to State
the matters to be
of which notice is to
be issued pursuant
under para 10 of the Indian
Order if there are no
to be published in
the Gazette of India. The enclosures
are ~~just~~ as
follows:—
(1) Draft notification
under para 4.

(2) Draft Rules

List of enclosures,

Copied by

Examined by

GPE—10,000—28-2-11.

III 3/7

Pol No: 1710 & 3-3-15

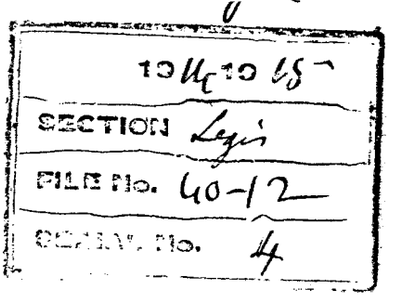
No. 529

FROM

P. B. WARBURTON, ESQ., I. C. S.,

FIRST ASSISTANT TO THE RESIDENT IN MYSORE.

12833



To

The Dewan of Mysore.

Dated Bangalore, 3rd March 1915.

SIR,

With reference to the correspondence ending with my letter No. 2967, dated the 16th May 1913, I am directed to refer to a notification* of the Government of India in the Public Works Department, No. 4, dated the 22nd January 1915, revising rules 38 and 49(d) of the Rules under the Indian Electricity Act, 1910.

* Published in page 246 of Part I, Gazette of India, dated the 6th February 1915

I have the honour to be,

Sir,

Your most obedient servant,

P B Warburton

First Assistant Resident.

CMS

R. O. 2—R. P. B.—1-1915—1,000.

6-4-15.

G. R. S. 26]

Legis File No. 40-12
Serial No. 5

Diary No. of letter replied to J 2833

No. J 3395

General and Revenue Secretariat
( )
, *the* 191 .

To The Chief Engineer
in Mysore, Bangalore

Date of issue 6/4/1915.

Signed by for Secretary to Government

Sir

I am directed to
invite your attention
to this office letter No. J 3504,
dated 27th May 1914 and
to request you to be so
good as to expedite the
submission to Govt. of your
proposals containing the
nature and extent of those
exemptions that are deemed

over.

SUBJECT.

necessary under rule 102
of the Indian Rules as introduced
into the C & M Station Bangalore.

I am to add that the
Indian Rules together with
the modifications noted in
Govt. of India Notn No 4
(P.W.D.) dated 22nd Jan: 1915
have been introduced into
the C & M Station under that Notn.

I have &c

EB 3/4/15
For Offg Secy to Govt.

9/4
3/4/15

List of enclosures

Copied by

Examined by

GPB—25.000—4-3-13

TELEGRAPHIC ADDRESS : *Statewoks.*

Urgent

No. 366 C.P.S. Jaeer

MYSORE P. W. DEPARTMENT.

CENTRAL OFFICE,

Bangalore.....~~28th~~ 29th May .....1915.

DIARY No. J.3765

From

KARPUR SHRINIVASRAO, ESQ., B.Sc., L.C.E.,
Chief Engineer of Mysore.

19/4/15
SECTION Legis
FILE No. 40-12 Bangalore.
SERIAL No. 6

To

D.M.Narasinga Rao, Esq., B.A., B.L.,
Offg. Secretary to the Government of Mysore,
General and Revenue Departments, Bangalore.

Sir,

Referring to correspondence ending with your letter No. J.3395/Legis 40-12 dated the 6th April 1915, regarding the - - application of the Indian Electricity Act to the Civil and - - Military Station, I have the honour to forward herewith a - - draft of the rules proposed by the Chief Electrical Engineer for adoption in the Civil and Military Station. He is of opinion that the rules now introduced under the act are not suitable for our work here and that many of the provisions are at variance with established standard practice in vogue in the Electrical Department of the State.

He further points out that the proposed rules will be found on perusal to be in no way repugnant to the provisions of the Indian Electricity Act and that the specifications are also drawn up in conformity with the latest standard practice adopted by the Institute of Electrical Engineers.

2. In these circumstances, it is hoped that the Government of India will, as a special case, order these rules to be introduced in the Civil and Military Station in supersession of those already passed under the Indian Electricity Act.

GPB—5,000—16-1-15

1914-15

MYSORE P. W. DEPARTMENT.

No. 366
CE

From

THE Chief Engineer of MYSORE,

~~Public Works Department~~, *Bangalore.*

To

The Secretary to Government
General and Revenue Departments
Bangalore.

Dated Bangalore 29th January 1916.

Despatched 31st January 1915

Enclosure No. 2

SUBJECT.

Re application of the Indian Electricity Act to the Civil and Military Station.

3. As regards the portion of the rules under this Act relating to the Electric traction, the Government of India may be requested through the Residency to hold the matter under - - abeyance until the draft agreement for constructing and working of an Electric Tramway in the Civil and Military Station already submitted is approved and the Indian Tramway Act has been amended as suggested in this office letter No.264/C.P.S. dated the 21st April 1915 to the address of the First Assistant to the Hon'ble the Resident.

I have the honour to be,

S i r ,

Your most obedient servant,

for Chief Engineer of Mysore.

GENERAL AND REVENUE SECRETARIAT.

(Continuation sheet draft form.)

differs from the rules of the Govt of India only ~~as to~~ in respect of the provisions of rules 35 to 100 of the British Indian rules or go still further

The draft rules are also returned herewith for reference and kind return when no longer required.

I have &c.

Sd/-

For Secretary to Govt

Gen Dept

NK
43-

III/2w
6 FEB 1917

No. 914

DIARY No. 763

1916-1917
SECTION Legi
FILE No. 40-12
SERIAL No. 8

Pol. 1390
6-2-17

FROM

MAJOR T. H. ST. GEORGE TUCKER,
FIRST ASSISTANT TO THE RESIDENT IN MYSORE.

To

The Secretary to the Government of
H.H. the Maharaja of Mysore,
General Department.

GEN. & REV. SECRETARIAT
III
JUDICIAL
6 FEB 1917

Dated Bangalore, 5th February 1917.

SIR,

I am directed to invite a reference to the correspondence ending with your letter No. 929 Pol., dated the 15th March 1916, regarding the question of applying the Indian Electricity Rules to the Civil and Military Station of Bangalore, and to state that the District Magistrate of the Station in his letter No. 393, dated the 25th January 1917, requests that arrangements may be made for the appointment of an Electric Inspector for the Station. I am to invite the views of the Durbar on the District Magistrate's suggestion.

Copy enclosed.

I have the honour to be,
Sir,
Your most obedient servant

T. St. G. Tucker

First Assistant Resident.

R. O. 2—R. P. B.—1—1917.—1,000.

Letter No. 393, dated the 25th January 1917, from the District Magistrate, C.& M.Station, Bangalore, to the First Assistant Resident in Mysore.

I have the honour to state that the Electrical Inspector to the Government of Madras has written to me enquiring to whom notices under section 30 and 33 of the Indian Electricity Act 1910 received by me are being forwarded and which Electrical - Officer exercises the powers of Electric Inspector over the area administered by me. As no such officer has been appointed for the Station I have informed him accordingly.

2. I would, therefore, now request you to kindly arrange for the appointment of such an officer for the Station.

3. In this connection I would invite your attention to this office letter No. 3647, dated the 22nd September 1911, on the subject.

"Copy"

Registrar, Resident's office.

GEN. & REV. SECRETARIAT
TYPING Sec.
7 FEB 1917

G. R. S. 26]

Legs File No. 40-1
Serial No. 9

Diary No. of letter replied to .....

No. 2857 Encl

General and Revenue Secretariat
( )
, *the* 191

To

The Chief Engineer
in Mysore, Bangalore

Date of issue 10/2/17

Signed by M^r G. Srinivasaiyer

Sir

I am directed to ~~invite your attention~~ ~~to this~~ forward herewith copy of letter No 393 dated the 25th January 1917 from the 2nd Magistrate C&M Station, Bangalore to the First Asst to the Resident in Mysore suggesting the desirability of affording

over.

SUBJECT.

an Electric Inspector
for the C & M Station Bangalore
under the Indian
Electricity Act, 1910,
and to request you
to favour Govt with
your opinion on the
suggestion. The matter
may kindly be treated
as very urgent

2 I am also to
invite your attention
to this office No J 3617 -
Legis 40-12-7 dated
8th March 1916 calling for
certain ~~information~~ further
information on the draft
rules under the Electricity
Regn sent by you and
to request you that an
early reply thereon may
also be sent.

A reply to this Resolution

List of enclosures

Copied by

Examined by

GPB -20,000--10-10-14

G.R.S. 27]

GENERAL AND REVENUE SECRETARIAT.

(Continuation sheet draft form.)

on them enquiry in the matter has been long pending. I have &c

for Secy to Govt

E.D

NLL 6.2.17

J.2358
1916-17
SECTION Legis
FILE No. 40-12

Telegraphic Address: *Stateworks*

28 APR 1917

No. 400/42 Audiance

MYSORE P. W. DEPARTMENT.

CENTRAL OFFICE.

Bangalore, 27th April 1917.

From Rajasabhabhushana

KARPUR SHRINIVASRAO, ESQ., B.Sc., L.C.E.,

Secretary to the Government of Mysore,

Public Works Department.

Legis 4/5

GEN. SECRETARIAT JUDICIAL 1 - MAY 1917

To

D.M.Narasinga Row, Esq., B.A., B.L.,

Secretary to Government, General Department,

Bangalore.

Sir,

With reference to your letter No.J.2857/Legis.40-12-9 dated the 10th February 1917, calling for my opinion on the desirability of appointing an Electric Inspector to the Civil and Military Station, I have the honour to inform you that the Indian Electricity Act contemplates the appointment of Electric Inspectors to safeguard the interests of the public in cases where the Electric Installations are carried out by private Companies or Firms. But in the case of the Civil and Military Station, it is the Chief Electrical Engineer to the Government of Mysore that carries out all the installations. I am therefore of opinion that for purposes of this Act, it would seem sufficient if the Chief Electrical Engineer is invested with the powers of an Electric Inspector.

2. A copy of the Chief Electrical Engineer's letter on the subject is also enclosed for information.

I have the honour to be,

Sir,

Your most obedient servant,

For Secretary to Government,
Public Works Department.

H.R.R.

WD 0180?—GPB—5500—11-1-17

191

MYSORE P. W. DEPARTMENT.

No.

From

To

Dated Bangalore, *191*

Despatched

Enclosure No.

Subject.

Letter No.F.15160-176 dated the 30th March 1917, from the Chief Electrical Engineer to the Secretary to Government, Public Works Department, Bangalore.

- - - - - - - - - - - - - -

Subject:--Appointment of an Electric Inspector for the Civil and Military Station.

With reference to your No.171/C.P.S. dated 22nd February 1917, regarding the advisability of appointing an Electric Inspector for Civil and Military Station, I have the honour to make the following observations:--

Under the provisions of the Indian Electricity Act, whenever a license is granted to a corporation or firm for the supply of electrical energy within a certain area, the local Government, having jurisdiction over that area, is empowered by the Act to appoint Electric Inspectors to guard the interests and safety of consumers of electrical energy and see that the licensee shall, in no way, violate the rules laid down under the Act for the supply of electrical energy to the public. But, in our case, as the license is granted to the Mysore Government whose electrical department is managed by an imported expert in the various branches of electrical engineering, who is conversant with the latest improvements and methods in vogue in America and England and manned by assistants, who have had considerable experience in western countries in the art of generation, distribution and supply of electrical energy, the existence of an Electric Inspector who, by virtue of statutory authority, exercises the supervisory control over a technical department of experts, such as ours, seems superfluous.

In our dealings with the civil and military Station, as likewise within the city limits, it has been the invariable practice of this department not to undertake the installation of lights and other electrical appliances within the consumers' premises. We erect our distribution lines and supply mains along public thoroughfares and, in the execution of such work, whenever a portion of the public thoroughfare had to be cut up for laying cables etc., or whenever our mains cross the telegraph lines, or our transformers grounded to the water-mains, or whenever the trees are trimmed in avenues, we have invariably obtained the previous approval and sanction of either the Civil and Military Station Municipality or the military authorities concerned and, I am glad to state, that our relations with the civil and Military Station authorities have always been most cordial and the results satisfactory and efficient.

Private installation, i.e., the installation of lights and other electrical appliances within the consumers' premises is executed by contractors and only such of those installations as have come up to the standard specification laid down by this department, were passed after rigid test conducted by the General Electric Inspector or Assistant Superintendent in the employ of this department. We will very shortly publish a set of rules and wiring specifications, more comprehensive in detail, based on the recommendation of the learned engineering societies of England and America and which will, in no way, be inconsistent with the general spirit of the rules laid down in the Indian Electricity Act. Further, we are now licensing contractors, so that our consumers will no longer be under the mercy of unskilled wire men as hitherto and shall have their installations executed by licensed contractors, who are strictly enjoined to adhere to our standard wiring specifications and whose work will be subjected

to a strict scrutiny and rigid test conducted by the employees of this department. We have endeavoured our best to safeguard the interests and welfare of our consumers in adopting such stringent measures of precaution.

In the light of the above explanation, it appears to us that it is absolutely unnecessary for the Civil and Military Station authorities to appoint an Electric Inspector to safeguard the interests of the public in Civil and Military Station. Should, however, the Civil and Military station authorities deem it necessary to appoint Electric Inspectors, we shall have no objection, provided that such Electric Inspectors are enjoined to strictly carry out the specifications laid out by this department and heartily co-operate with this department in securing the welfare of our consumers in the Civil and Military station.

"C o p y".

Assistant Secretary to Government,

H.R.R. Public Works Department.

G. R. S. 26]

GEN. & REV. SECRETARIAT
TYPING Sec.
8 MAY 1917

SUBJECT Re the appointment of an Electric Inspector in the C & M Station Bangalore

2

21/5

Diary No. of letter replied to

~~Legis~~ Section Legis
File No. 40-12
Serial No. 11

General and Revenue Secretariat
( )
, the 191

No. Pol. 1163/Ee 1

Date of issue 12th May 1917

Signed by ~~D~~ M Narasingarao

Paper under disposal No II

To The F. A. Resident in Mysore, Bangalore

Sir,

With reference to your letter No 914 dated 5th Feb 1917 inviting the views of the Durbar on the matter of appointing an Electric Inspector to the C & M Station Bangalore under the Indian Electricity Act, I am directed

over.

To forward herewith
copy of letter No H. 15-160-176
dated 30th March 1917
from the Chief Electrical
Engineer to Govt
Secretary to Govt, Public
Works Dept, on the subject matter
and to state that from
the reasons therein stated in dereliction of opinion that
~~the Inspector thinks that~~
the Chief Electrical Engineer
to Govt invested
with the powers of an
Electric Inspector for
the C & M Station, Bangalore

12/5

List of enclosures.

One

Copied by

Examined by

G.R.S. 26]

SUBJECT.....

.....

.....

GEN. & REV. SECRETARIAT
TYPIST SEC.
23 MAY 1917

*Diary No. of letter replied to*_____

Section Legis
File No. 40-12
Serial No. 12

General and Revenue Secretariat

( )

, *the* *191*

No. J 4265

Date of issue 25/5/17

To

The Chief Engineer
in Mysore, Bangalore

Signed by Mr G. Srinivasa Iyr

Sir

I am directed to invite your attention to this Office No J 3617 - Legis 40-12-7 dated 8th March 1916 calling for certain further information on the draft rules under the Electricity Regulation sent by you and to

over.

~~request that~~ and
further reminders thereon
and to request that
~~a reply to the~~ the
information therein called
for may kindly be
furnished to this office
without further delay.
~~An~~ A reply to the Residency
on their query in the
matter of introducing
the Indigent Electricity Rules
into the C & M States
~~the Gadisa~~ is awaited
by ~~from~~ 4 years

List of enclosures.

Copied by

Examined by

GPR—20,000—11-2-11

GEN. & REV.
22 JUN 1917

Letter No.3810, dated the 16th June 1917, from the ~~Sukkur~~ District Magistrate, Civil and Military Station, Bangalore, to the First Assistant to the Resident in Mysore.

In reply to your endorsement No.4243 dated the 31st May 1917, I have the honour to state that it seems to me on reconsideration that no Electrical Inspector is required for the Civil and Military Station of Bangalore considering that the system is run by a Government department and that if any Inspector were required he could -- hardly be the Chief ~~Inspector~~ Engineer of the department as an Electrical Inspector has, under the Act, to be independent of the licensee.

GEN. & REV.
22 JUN 1917

MAIN No. 9275
12 13

Pol.2118 23-6-17

No. 4800.

Mysore Resident's Office,
Bangalore, 22nd June 1917.

A copy of the foregoing letter is forwarded to the Secretary to the Government of His Highness the Maharaja of Mysore, General Department, for information, with reference to his letter No.1163 Pol dated the 22nd May 1917.

GEN. & REV.
JUDICIAL
23 JUN 1917

H S James
First Assistant Resident.

V 24/8

G. R. S. Vl—G/32]

SUBJECT.....

.....

.....

Diary No. of letter replied to.....

GENERAL AND REVENUE SECRETARIAT

( )

, the *191*

Date of issue 25/8/17

Signed by W. G. Srinivasa Iyer

Section Legis

File No. 40-12

Serial No. ~~12~~ 16

No. J 6781

To

The Chief Engineer

in Mysore, Bangalore

Sir

~~I am directed~~

With reference to your letter No 400/C P.S. dated 27th April 1917 re the appointment of an Electric Inspector for the C & M Station, Bangalore, I am directed to state that on reconsideration ~~under the circumstances~~

over.

the Dt. Magistrate, C & M.
~~referred to him from the~~
station, Bangalore.
~~Hon'ble the Resident~~
is of opinion that no
Electrical Inspector is
required for the C & M
Station.

2. I am further to
invite your attention to
your letter No ~~521~~ 722/C.P.S.
dated ~~2nd June 19~~ 8th
August 1917 stating
~~that~~ the draft rules
under the Electricity
Regulation is now being
revised and that the
same will be submitted
in about two weeks
and to state ~~that~~ the
draft rules therein ~~were~~
referred to ~~has~~ have not been
received in this office
yet. I am therefore
to request you to

List of enclosures.

Copied by

Examined by

W D86—GPB -60,000—15-11 16

G.R.S. 27]

GENERAL AND REVENUE SECRETARIAT.

(Continuation sheet draft form.)

CT

be so good as to expedite the submissi of the draft rules with the information called for in this office No (361) dated 8th March 19 Legis 40-12-7

The matter may kindly be treated as very urgent as reminders are being received from the Residency the matter.

I have &c.

Sd/- V R

for Secretary to Govt

E.D.

VRL 24.8.17

Telegraphic Address: *Stateworks*

No. C.P.S. 657 and are file copies.

MYSORE P. W. DEPARTMENT.

CENTRAL OFFICE.

Bangalore,.....11th.....Sep.tember.....*191* 8.

DIARY 94239

From

KARPUR SHRINIVASRAO, Esq., B.Sc., L.C.E.,

The *Secretary to the Government of Mysore,*

Public Works Department.

19 -12
SECTION Legis
FILE No. 40-12
SERIAL No. 15

To

C.S.Balasundaram Iyer,Esq., B.A.,

Chief Secretary to Government,

B a n g a l o r e.

Sir,

With reference to your No.3617/Legis.40-12-7 dated 8th March 1916 and subsequent correspondence ending with your D. O. No.G.4092 dated 26th August 1918, regarding the introduction of the Indian Electricity rules into the Civil and Military Station of Bangalore, I have the honour to forward a draft of the rules which are in force in the Mysore State, and which the Chief Electrical Engineer proposes for adoption in the Civil and Military Station.

2. The points of difference between these rules, and the rules under the Indian Electricity Act are enumerated in the Chief Electrical Engineer's letter No.18597-263 dated 17th August 1918.

3. It is seen from it that the points of difference are not confined to rules 85 to 100 alone, but comprise other rules also of the Act. This appears unavoidable on account of the peculiar nature of the case, viz., the Government of Mysore and not any private party being the supplier of the power.

Copy.

WD 02802—GPB—3500—15-1-17

1918-19.

MYSORE P. W. DEPARTMENT.

No. C.P.S. 657.

From The Secretary to the Government of Mysore, Public Works Department, Bangalore.

To The Chief Secretary to Government, Bangalore.

Dated Bangalore, 11th September 1918.

Despatched ,, 11th September 1918.

Enclosure No. 1

Subject.

Re the introduction of the Indian Electricity Rules into the City and Adjoining Taluks

4. As suggested by the Chief Electrical Engineer in para 13 of his note, I would strongly recommended for the consideration of government the formation of a committee to consider the question.

I have the honour to be,

Sir,

Your most obedient servant,

For secretary to government,

P.W.Department.

Letter No.18597-263 dated 17th August 1918 from the Chief Electrical Engineer to the Government of Mysore to the Secretary to Government, Public Works Department.

In returning herewith the file of correspondence received with un-official letter No.C.E.S.563 dated 31st July 1918 relative to the Electricity Regulation for adoption in the Civil and Military Station, I have the honour to submit the enclosed replies covering the several points therein referred to.

&&&&&&&&&&&&&&&&&&&&&&&&

"True copy"

R A Subramanya Ayyar

Assistant Secretary

Public Works Secretariat.

V;N.S.

The rules prepared and submitted with this office No.17351/263 dated 4th February 1918, provide generally for the "inside" (or interior) wiring for lighting and power installations and are intended to standardize the class of materials and workmanship of such installations and to protect the consumer from.inferior work by the Electrical Contractors and from accidents by electric shocks and fires, but does not provide for the overhead or "outside" work - outside the consumers premises

2. The dividing point between the consumers installation and the suppliers lines is the junction box or "cutout" mounted on the suppliers (Electrical Department) last pole, generally on a public thoroughfare. As the outside work is invariably done by this Department, the rules, therefore, were not included in the Book of Rules, as it is not necessary to give them to the general public and to contractors - the reasons are obvious. The rates charged for electrical energy for lighting and power purposes, are very moderate, enabling a great number of people of moderate, even of small means to make use thereof, while, if the Act of 1911 were introduced, as it stands, the cost of the "outside" work would be so great that the rates would be considerably enhanced, possibly doubled

3. The factor of safety provided by the present system of distribution and supply, is sufficiently high, (in nearly every case of injury or accidents investigation has shown the cause tc be deliberate interference or rashness by either the injured person or by others, in all other cases the accidents were practically unpreventable or occurred under most exceptional conditions

4. The Act of 1911 may be introduced and put into force

in the Civil and Military Station with the following provisions:

1.) that the inspectors, if appointed, will be under the authority of the Chief Electrical Engineer to the Government of Mysore,

2.) that there will be no fees levied other than those now levied by this Department,

3.) that the Chief Electrical Engineer to the Government of Mysore will be the final and ultimate authority,

4.) and with the following modifications additions and deletions:-

5. Chapter I, Rule 2 J (i) changed to read 650 volts,
(ii) deleted,
(iii) to read 650 volts.

6. Chapter II may be entirely deleted.

The Mysore Government Electrical Department does all inspections and tests, free of charge, except repeat tests and for reduction of the minimum rating of an installation. The appointment of inspectors is satisfactory if as provided for in 4 above. However, the cost of such inspectors will ultimately have to be borne by the consumer.

7. Chapter III may be entirely deleted.

The supply of power is by the Government of Mysore Electrical Department to the Government of the Civil and Military Station for street lighting and to private parties direct for lighting and power consumption and it is highly improbable that any Concern could, without a hydro-electric supply, ever offer electric power to the consumer in the Civil and Military Station at rates reasonably near the present rates. There is therefore,

no need of rules for the issue of licenses

8. Chapter IV may be deleted.

This Department prescribes to the applicant for power the conditions under which such supply will be given and as these conditions have proven satisfactory to both supplier and consumer, there is no necessity for a revision. The section under accounts and forms cannot apply to this Department.

9. Chapter V, Rule 33 may be applied, but modified so that

(b) will read "to every owner".

Entirely omit the sentence "Nothing in the rules in this Chapter shall apply to any owner when the pressure does not exceed 125 volts".

Rule 34 may be omitted.

Rule 35 may be omitted.

This would impose a very high additional expenditure on all "outside Work" as all lines above ground would have to be equipped with overhead ground wires and lightning arresters throughout, an expenditure which would not be justified by approximately ten years of successful operation without them.

Rule 36 may be applied.

Rule 37 may be applied, except that the cutout will be installed outside the consumers premises, so as to be accessible to the inspectors of the Department without disturbing the consumer Each individual consumer is invariably supplied through an independent cutout.

Rule 38 may be applied.

Rule 39. 1 - May be applied.

2 - May be applied

3 - This cannot be applied without prohibitive cost and is unnecessary.

4 - May be applied.

Rule 40 - May be applied.

" 41 -do-

" 42 -do-

" 43 -do-

" 44 -do-

" 45 -do-

Rule 46 - This rule may be deleted and the whole of our Rule No.26, page 8, substituted.

Rule 47 - May be deleted, as it fixes neither as a standard.

Rule 48 - May be applied.

Rule 49 (a) May be applied.

(b) -do-

(c) -do-

(d) -do-

(e) May be deleted, as only authorized persons will have access to the apparatus.

Rule 50 - May be deleted and our Rule No.20, page 6, be substituted therefor.

Rule 51 - May be deleted, as unnecessary restrictions will be imposed on the design and construction of power and sub-stations, which are designed to meet the requirements of safety and reliability of operations for which it is extremely difficult to frame rules. Engineering practice determines the proper specifications which this rule defines. The rule fails to provide for the quality of materials, the switchboard should be made of, a vital point; nor does it specify clearances between terminals on the board, nor the insulation specification of the wires, instruments and other apparatus mounted thereon.

Rule 52. - May be deleted, as it is not possible to provide different coloured wires for the different circuits in stations etc.

Rule 53.- May be deleted and our Rule No.104, page 48,

substituted as covering the point more completely.

Rule 54 May be deleted. Our standard practice is to supply 2200 or 2300 volts for motors of 50 H.P. and above. This rule would prevent such supply.

Rule 55.- May be deleted and our Rule No.110, page 52 substituted, as it covers the ground more completely.

Rule 56 - May be applied

Rule 57 - May be deleted; and for consumers our Rule No.91, page 42, applied.

For the supply lines up to the consumers premises, the use of aerial wires smaller than No.6 B. and S. or No.8 S.W.G. gauge has been discontinued, so long ago that only 960 feet of No.8 B. and S. wire is now in use in Civil and Military Station. The breaking strain of No.8 B. and S. (No.10 S.W.G.) wire is 773 lbs. while that of No.6 B. and S. (No.8 S.W.G.) is 1237 lbs.

Rule 58 - May be deleted. The average standard distance between supports is 150' with a maximum of 200' and the size of wire is such that its breaking strain is 1,237 lbs.

Rule 59 - May be applied.

Rule 60 - May be deleted, as the requirements are unnecessarily severe. The supports already in use are much lighter than this rule provides for. If the requirements of this rule are fully met, the cost of the distribution lines in the Civil and Military Station will be very materially increased, so much so that the rates for electric supply will have to be increased by about 100 per cent. The system has been in operation for 10 years and there is, by practice, full justification for the use of the lighter supports. (i.e. tubular steel poles). There is no record of a support having been blown down in the Station.

Rule 61 - May be deleted. On account of avenue trees, it will not always be possible to keep the lines at a minimum height of 20 feet. To provide a minimum of 20 feet would entail re-placing practically every pole in the Station and a very great deal of tree trimming.

Rule 61 (2) - May be applied, as it is provided by our rule 92, page 42.

Rule 62. - May be deleted. If it provides for guard wires under all conductors not supported by messenger cables, then the cost of the distribution lines will be prohibitive. If it provides for a device, automatic switch, circuit breaker or fuse at the power or sub-station, that will automatically cut out the circuit, i.e., render it harmless, when one of the wires break, all such precautions as possible are taken. Nothing, except a guard wire beneath the wires, will render a system free from liability to accidents in the case of a heavy branch falling on one conductor of a single-phase or a three-wire system and stretching it until it is within reach of traffic. The number of accidents of this nature are very rare. To protect the aerial lines, as mentioned above, will require that all supports now in use be re-placed with much longer and heavier poles.

Rule 63. - May be included, but modified as follows:-

> Except as provided for in rule 83, where a licensee's or an owner's aerial line crosses, or is in proximity to, another aerial line or to any telegraph wire, not belonging to him, precautions shall be taken by the licensee or owner, as the case may be, against the possibility of contact, at the expense of the party whose line is last erected, and the crossing shall be made in a direction as nearly at right angles as the nature of the case admits.

Rule 64 - May be applied.

Rule 65 - May be omitted, all high pressure aerial lines are constructed by the Department's Line Inspectors.

Rule 66 May be omitted; not necessary.

Rule 67 -May be omitted; not necessary.

The section, "Electric Traction" Rules 68 to 84 inclusive, may be omitted for the present and taken up for consideration, when the tramway scheme again becomes active.

The section "Mines", Rules 85 to 103 inclusive, may be omitted, as there are no mining operations carried on in the Civil and Military Station.

10.
Chapter VI.

The whole of this Chapter may be made to apply, except that Rule 109 may read; all rules and regulations now in use in the Civil and Military Station are hereby superseded by the above rules.

11. Generally, in conclusion, I would recommend that the Act of 1911 be revised to provide protection to the consumer in every case against defective or poorly designed apparatus and to protect the owner or licensee (the Electric Supply Department) against damage to his electric supply system and against loss of current by unauthorized tappings and against all infringements. It should also specify the quality of materials to be used in lighting and power installations and lay down regulations to protect the consumer against inferior materials and poor workmanship, and establish standards and specifications that are of use to the consumer, electrical contractors, and to the Electric Supply Department.

12. The rules framed by this Department are intended to protect the consumer of electric energy, as far as possible, from accidents, inferior materials and poor workmanship and

to provide against unnecessary interruptions to his supply, and, at the same time, does not impose unnecessarily expensive construction.

13. I would strongly recommend that a Committee of three be appointed to formulate an "Electricity Act" for the Civil and Military Station, before any regulations are made applicable therein. One member of this Committee to be appointed by the Civil and Military Station authorities, one by the Government of Mysore and the third to be selected by these two, and should have as their main objects, the following:-

1.) Protection of the consumer and the public against accidents.

2.) The protection of the consumer against inferior materials and poor workmanship and to provide against excessive costs of such installations.

3.) To provide for an economical distribution system, permitting the maximum of "reliability of supply" at moderate costs to the consumer.

4.) To provide penalties for breach of the rules and for infringements.

13. The Mysore Electricity Act of 1900 should be revised and I hope to be able, in the near future, to submit to Government a draft act for legislative action.

Mr. Rushe kept in view post-cost-cost of- Rly 26-9-18

Bangalore,
23-8-1918,
SGF-AAN.

Chief Electrical Engineer
to the Govt. of Mysore.

P.W.D. 12]

General and Revenue Secretariat. | File No. of 191

Serial No.

UO No. CPS 563
Cmt file.

This office file relating to the framing of draft rules under the Electricity Regulation for adoption in the Civil and Military Station, Bangalore, is forwarded with compliments to the Chief Electrical Engineer for favour of information on the following points and favour of very early return:-

(1) Whether the draft "wiring rules" received from the Chief Electrical Engineer have any bearing on the draft rules of the Electricity Regulations referred to in his letter No.H.16535-263 dated 18th September 1917.

2) If it is proposed to adopt these rules in the Civil and Military Station Bangalore the points on which there is a difference between the proposed draft rules and the Rules of the Government of India in respect of the provisions 35 to 100 (of the British India Rules) may kindly be indicated.

2. As the Residency is urging for the early disposal of the question the matter may kindly be treated as very urgent.

K W Krishnamurthy
Deputy Secretary to Government,
P.W. Department.

Bangalore,
31-st July 1918.

NOTE—Contn. sheet

3PB—3,000—17-12-14

14/12/18

WIRING RULES.

Section I.

Scope of the Rules.

1. The rules embody the requirements and precautions which the English Institute of Electrical Engineers has framed to secure satisfactory results with a supply of electrical energy at low pressures, not exceeding 250 volts, modified to suit local conditions, and reference has been made to the provisions of the Indian Electricity Act of 1910. They are intended to include only such requirements and precautions as are generally necessary to secure satisfactory service, but they are intended neither to take the place of a detailed specification nor to instruct untrained persons.

P. W. D. SECRETARIAT. C.P.S. Regd. No. 784/1918 Date 11-10-18 GOVT. OF MYSORE.

Fire Offices.

2. Notice of the introduction of wiring or alteration in the existing wiring should in all cases be given to the Fire Offices insuring the risk and due notice should also be given to the power suppliers before wiring.

Definitions of certain terms used in these rules.

System.

3. System means an electrical system in which all the conductors and apparatus are electrically connected to a common source of supply.

Three-wire system.

4. A three wire system is one in which three conductors are maintained at different potentials, the neutral conductor at a potential intermediate between the highest and lowest, being common to all lamps or other consuming devices supplied on either side of the system.

Neutral Conductor.

5. The neutral conductor of a three-wire, single-phase, system is the conductor which is at a potential intermediate between the potentials of the outer conductors and maintained at the potential of the earth by being connected thereto in an approved manner as outlined in clause 26.

Outer conductor.

6. The outer conductors of a three-wire system are those between which there is the greatest difference of potential.

Note. This specialized use of the word "outer" must not be confused with the non-technical use of the word when applied to the external conductor of a concentric main which physically surrounds the other conductor or conductors of such main.

Earthed Conductor.

7. A conductor is said to be earthed when it is connected to the general mass of the earth in such a manner, see clause 26, as will ensure at all times an immediate and safe discharge of electrical energy.

Dielectric.

8. A dielectric is any insulating material which by its nature or the method of its application to a conductor permanently offers high resistance to the passage of current and of disruptive discharge through itself.

Uninsulated conductor.

9. A conductor is said to be uninsulated when no provision is made by the interposition of a dielectric or otherwise for its insulation from earth.

Grouping of Conductors.

10. Conductors are said to be grouped

when more than one is contained within a single duct or groove.

Single-pole swithces. 11. Single-pole switches are switches interrupting one conductor only of a circuit.

Linked Switches. 12. Linked switches are single pole switches linked together mechanically so as to operate simultaneously.

Switchboard. 13. Switchboard means the collection of switches or fuses, conductors and other apparatus in connection therewith used for the purpose of controlling the current or pressure in any system or part of a system.

Grade of Insulation. 14. A cable is said to be of the I.E.E. 2,500 megohm grade when the minimum insulation resistance of a mile of wire after correction to a temp. of 60°F (15.6°c) is that shown in columns (6) and (7) of the table when tested after one minute's electrification and 24 hours' immersion in water and while still immersed. The test must be taken with an E.M.F. of not less than 500 v.

Ventilated Motors. 15. A ventilated motor is one in which, while ventilation is provided for, access to the armature, field coils and other live insulated or uninsulated parts is only to be obtained by opening a door in, or removing a part of the enclosing case.

Totally enclosed motors. 16. A totally enclosed motor is one in which all the live parts, whether insulated or not, are totally enclosed.

Section II.

Low pressures not exceeding 250 volts.

General Arrangement.

Control of Main Circuits.

17. Every installation must be protected by linked main and distributing switches and single pole fuses on each leg of the circuit. The switches and fuses to be under the control of the consumer, and these must be easily accessible and placed as near as possible to the generator or the entry of supply, so as to control the consumer's complete installation.

Interruption of current in an earthed main.

18. When one of the main conductors of a system of supply is earthed, no interruption of the current at any point in the earthed conductor will be permitted, unless a simultaneous break is effected on the non-earthed conductor. (Refer para 19.) No switch or switch-fuse not linked to another switch or switch-fuse on the non-earthed conductor may be inserted in any conductor connected to an earthed main. This rule however does not prevent the use of a disconnecting link in the earthed conductor for testing purposes.

Fuses in Multiple-wire systems.

19. No fuse may be placed in the neutral conductor of a three-wire or other multiple-wire system, but fuses must be placed on both conductors of two-wire circuits branching therefrom. (See para 24.)

Introduction of Multiple-wire system into premises.

20. When the pressure between the outer conductors of a three-wire system exceeds 250 volts, and the three wires of the system are brought into premises a linked three-pole

switch of an approved protected type must be installed and the supply shall be given to two pairs of protected terminals arranged so as to minimise the danger of shock. The wiring from these terminals shall be kept distinct throughout, and so arranged that a person cannot simultaneously touch two points respectively in contact with the outer conductors. All main and subcircuit switches in a 3 wire distribution cabinet must, with their terminals, busbars, fuses etc., be of the protected type, making contact with live parts impossible. In the case of other multiple-wire systems similar principles shall be applied.

Max. load on 2 wire distribution.

21. A lighting installation having more than 625 watts must be wired three-wire.

Protection in polyphase systems.

22. When energy is taken from all the conductors of a two-phase or three-phase system, the conductors must be protected, either by an automatic multiple pole circuit-breaker, or by a fuse on each pole in conjunction with a linked switch; or by a linked switch fuse.

Current in circuits and sub-circuits.

23. (a) Conductors must radiate from distributing centres, and in large systems from those centres to sub-centres. For incandescent lighting no final sub-circuit shall carry more than 5 amperes up to 125 volts, or more than 3 amperes from 125 to 250 volts. Each sub-circuit can have a maximum of 15 outlets subject to the maximum current specified above.

(b) Sub-circuits for small cooking and heating appliances must not carry more than 15 amperes up to 125 volts, or more than 10 amperes from 125 to 250 volts, and they must be protected by a fuse on each pole.

(c) Wiring for large electric ovens and heaters should be made in consulation with the Chief Electrical Engineer or his authorised representative.

Fuses in Sub-circuits.

24. Every sub-circuit must be protected by a fuse on each pole.

Grouping of conductors.

25. When protected from mechanical injury by metal tubes or conduits (para 43), conductors of opposite polarity may be grouped. If the protecting tubing or casing is not metallic (see para 44) conductors may be grouped only if they are of the same polarity and carry small currents as in sub-circuits for incandescent lighting. Conductors grouped in non-metallic casings must not have any joints. If the supply is alternating and the protection metallic, both the lead and return conductors of a single-phase system and all the conductors of a polyphase system must be grouped.

Earthing.

26.(a) Where metallic sheathing or tubing is used, it must be electrically and mechanically continuous and connected to earth. The conductor used for the purpose of earthing must be of copper and of a

a sectional area not less than that of No.6 B and S or No.8 S.W.G for every 75 amperes of working current or part thereof. The copper conductor must be tinned wherever it comes in contact with the ground.

(b) The earthing should be made either (1) by securely clamping the tinned conductor to a clean surface of a water pipe buried underground with a tinned clamp of approved design

or (2) the tinned conductor should be riveted and soldered to a tinned copper plate or lead plate, not less than one foot square by 1/8 of an inch thick and buried at least 5 feet deep in the ground. The earth plate should be completely surrounded by finely crushed coke or charcoal or

(3) by rivetting and soldering the tinned conductor to a 9 feet length of 1¼ inch galvanized iron pipe driven 6 feet deep in the ground and filled with moist common salt as in sketch No. 1386.

Either of the two latter methods must be used only when the water tap is more than 100 ft. away from the premises, or a public road must be crossed to obtain connection therewith.

(c) Pipes of a gas system must never be used to obtain an earth connection.

(d) In lighting installations of large buildings having 2,000 watts or more and therefore heavily fused, the supply wire that is grounded at the pole transformer, must be connected to earth at the premises also. This may be done by connecting the wire and the conduit system to the same ground at the premises. This procedure may also, be adopted in all other cases where the resistance between the groun at the customer's premises and that at the supplier's distribution transformer is likely to be high enough to prevent the satisfactory operation of protective fuses when a faulty ground occurs

Inflammable Gases and Dust.

27. (a) In places where inflammable or explosive dust, gases, or vapours are liable to be present, dynamos, arc lamps, Nernst lamps, attaching plugs and connectors or any other apparatus or connection which is liable to produce intense heat or open sparking, must not be used. In such situations, incandescent lamps must, with their holders, be enclosed in air-tight fittings of thick glass; switches fuses and resistances must be enclosed in flame-tight boxes or break under oil; or preferably placed outside such places; and motors, with their live parts, starters,

terminals and connections, must be completely enclosed in flame-tight enclosures made of non-inflammable material.

(b) There must be no contact between conductors (or their insulating material, metallic sheathing or tubing) and pipes of a gas system. There must be a clearance of at least 6 inches between conductors and such pipes.

Damp surfaces.

28. Except where completely enclosed in a water tight metallic casing, no switch, ceiling-rose, cut-out, attaching plugs, connector, or other electrical accessory, may be mounted directly upon any surface liable to become damp, but must, in addition to its own mount, be fixed upon a base block of well seasoned teak or rose wood rendered impervious to moisture by thoroughly varnishing.

Conductors - Size and conductivity.

Conductors.

29. Conductors should be of copper of approved conductivity.

Excepting for wiring fittings, the sectional area(see Table) of any copper conductor must not be less than that of No.16 S.W.G. or No.14 B and S.

Size of Conductors.

30. Subject to para 29, the size of conductor within a building for power and heating circuits will be determined by the rise in temperature as stated in paragraph 33.

Size.

Subject also to para 29 the size of conductors within a building for lighting circuits will be determined by the permissible drop in volts, which should not under any conditions exceed 2 per cent. of the supply voltage between the supplier's street pole and the farthest lamp in the circuit.

Insulations containing sulphur.

31. Where sulphur compounds are present in any part of the insulating material the copper in contact with the insulating material must be protected there-from by tinning.

Stranding.

32. All covered copper conductors having a greater area than that of a No.10 B. and S. No. 12 S.W.G. wire must be stranded.

Conductors - Insulation.

Temperature.

33. Conductors except as provided in paragraph 49 must be specially insulated with material which does not deteriorate at the highest temperature to which it will be subjected; for instance, rubber must not be allowed to exceed 130° F. (54.4° C.), and paper or fibre must not be allowed to exceed 176 ° F. (80° C.)

34. The insulating material on any conductor other than a flexible must be throughout either...

Vulcanised rubber.

A. A dielectric, such as vulcanised rubber of the best quality, which is impervious to moisture, and only needs mechanical protection. ("Dielectric" does not

not include braiding or taping.) Or

Paper and Fibre.

B. A dielectric, such as impregnated paper or fibre, which must be kept perfectly dry, and therefore needs to be encased in a water proof sheath, generally of soft metal such aslead, drawn closely over the dielectric.

Thickness of Insulation

35. The radial thickness of vulcanised rubber must be not less than that given in column 8 of the Table. The radial thickness of dielectrics of of Class B must be not less than that given in Column 9 of the Table, and the radial thickness of the lead sheath not less than that given in column 10

Tests.

36. The dielectric must be such that when the insulated conductor has been immersed in water for twenty-four hours it will, while still immersed, withstand 2,000 volts for half an hour between the conductors and between the conductor and the water, the test pressure being applied with alternating current at a frequency of 60 cycles, the E.M.F. curve being as nearly as possible a sine-wave.

Insulation Resistance

37. The minimum insulation resistance when corrected to a temperature of 60o F must be those given in columns 6 & 7 of the table, the test being made after one minutes electrification with not less than 500 v. and after an immediately preceeding immersion in water of the cable for 24 hours and while still immersed.

Twin and multiple conductors.

38. The minimum insulation resistance of each insulated member of a twin or a multiple core cable should be the same as given in the table for a single conductor of the same size.

Taping and Braiding.

39. Conductors insulated as in Class A must be taped or braided.

UNDERGROUND CABLES.

40. The cables shall be lead-sheathed, juted and compounded, steel armoured or taped, well juted and compounded over all. The insulation resistance shall be as specified above.

Conductors - Flexible.

Size.

41. Flexibles must be of a sectional area not less than that equivalent to No.19 S.W.G. or No.18 B. and S. and must be stranded being made up of wires of a section not greater than No.36 S.W.G. The insulating

Dielectric.

material used as the dielectric must be pure rubber equal to washed para rubber of the bes quality or vulcanised rubber of the best quality. Pure rubber insulation is best suited for flexibles intended for use with pendants. Pure rubber must be laid on in two layers, care being taken that the edges of each layer overlap, and the radial thickness of the dielectric must not be less than .02". Each coil of pure rubber flexible must be tested in air for 15 minutes with a pressure of 1500 volts alternating between the conductors at a frequency of 60 cycles.

Tests and thickness of Dielectric.

Vulcanised rubber flexible must be insulated with one layer of pure rubber and two layers of vulcanised rubber, and the radial thickness of the dielectric must not be less than .034". Each coil of vulcanised rubber flexible must be tested for 15 minutes with a pressure of 1,500 volts alternating at a frequency of 60 cycles, after twenty-four hours' immersion in water and while still immersed.

Where permitted.

42. The use of flexibles is prohibited in the following:-

Fixtures or brackets (excepting of the portable types) conduits, casing, open wiring, switch connections (excepting of the pendant type), on walls ceiling, and floors. Flexibles must be kept well away from inflammable materials and must not be used where they are liable to mechanical injury. Subject to the above prohibitions, they may be used only for attaching to pendants or portable appliances. They should be protected by insulating bushings where the cord enters the socket. In all cases where flexible cord is used the end strands of each conductor must be tightly twisted together and well soldered. The connection between flexibles and solid wires should only be effected by means of screw-down terminals in junction boxes of ceiling roses.

Conductors - Fixing and Supporting.

43. Conductors (excepting flexibles) insulated as in classes A and B (par. ~~84~~ 34):-

Steel conduits. May be used in steel, brass or copper conduits; but all conduit systems must be securely joined to secure permanent electrical and mechanical continuity throughout without the aid of wire jumpers, and have all outlets bushed to prevent abrasion and be connected to earth (pars. ~~71~~ 72 to ~~75~~ 74).

Note:- Screw jointed conduits are preferable

Isolated lengths of metal conduits except short inaccessible lengths passing through walls, floors, etc. should also be permanently grounded.

The interior of metal pipes must be perfectly smooth and clear from all burrs. The internal diameter of the conduits must be large enough for the wires to be pulled through without injury to the insulation.

In damp places the conduit system must be solid drawn, welded or brazed and have water-tight screwed joints.

Conduits must be

efficiently drained if liable to internal condensation, by having open ends left with proper screens to prevent insects entering or by having the lids of inspection boxes perforated.

In cases of open seam piping, the seams should be laid downwards in horizontal runs, and the seams placed outwardly in vertical runs.

Sharp bends should be avoided and plain junction boxes should be used wherever possible and elbows to be of approved design. Under no circumstances shall conduits be used for underground work, excepting for use in enclosing armoured cables. Conduits buried in plaster must be solid drawn, welded or brazed.

Wood Casing.

44. Conductors may be enclosed in hard wood casing in dry places. The casing must not be buried in plaster or cement nor exposed to moisture or injurious action from acids, fumes etc.

Unless efficiently protected from drip, wood casing must not be fixed immediately below, and in no case must touch, water pipes.

Conductors of opposite polarity must not be grouped in wood casing; but must be kept apart by a continuous fillet, which should be at least 5/8" in thickness - see also para 107B

The potential across any

two conductors in wood casing shall not be greater than 650 volts.

All casing must be firmly fixed and fastened to walls by means of screws and wooden plugs.

The coverings of the casing should be substantial and screwed on at sides and centre with brass screws.

There must be no crossing of wires in wood casings without the interposition of an insulating fillet of sufficient thickness as per sketch No.1385 At crossings and branches it is preferable to use moulded porcelain, of approved make, with screw down terminals.

No wiring joints should be made in casings except at branches.

No bell, telephone or telegraph wires shall be placed in the same conduit or wood casing containing electric lighting or power wires.

Wood casings should be well painted inside and out with moisture proof paint.

Open wiring. 45 Conductors insulated as in classes A and B and without any mechanical protection of conduit casing or armouring may be used only in dry and inaccessible places and may be employed on walls when

the distance between the floor or ground and the lowest conductor exceeds 9 feet.

The minimum spacing between adjacent conductors of a circuit shall never be less than 2" and in the case of alternating currents it is preferable to place the lead and return conductors of a circuit, not wider apart than 3" The minimum distance between a conductor and wall, ceiling or any non-conductive obstruction shall not be less than 5/8" The minimum air spacing between a conductor and water pipe, gas pipe, or other conductors not forming a part of the circuit shall never be less than 6 inches excepting in cases where conductors must pass through a wall, where brazed steel conduits or a continuous length of porcelain tubing may be used for the protection of the conductor or conductors.

Insulators for open wiring.

Open wiring may be supported on either approved porcelain cleats or insulator knobs of the clamping type; cleats or insulators must be securely screwed to the walls, ceilings, or rafters, when the same are of wood. When the walls are of masonry, they must be firmly screwed to suitable wooden or metal plugs well driven into the walls. The minimum distance allowable between adjacent insulators supporting a conductor shall be not less than three feet.

Lead covered conductors.

46. In dry places where the lead is not liable to injury from chemical action, unenclosed lead-covered conductors may be used and must be supported either on a continuous wood fillet or at sufficiently frequent intervals on any other approved form of support not likely to injure the lead. The lead sheathing shall be electrically continuous and thoroughly grounded.

Floors and Walls.

47. Conductors where exposed to injury (e.g. passing out of floors) must be specially protected by stout conduits, and the free ends of such conduits be boxed at the level of the top floor. When conductors pass through walls or partitions, they must be enclosed in continous lengths of porcelain or other protecting conduits with suitable bell-mouths or bushings.

Party walls and floors.

48. Conductors passing through party walls or fire resisting floors must be provided with special protection, such as a close-fitting porcelain or other incombustible tube, to prevent the spread of fire through the openings. When the end of the tube is outside the building, it should be bell mouthed or bushed, and turned downwards.

CONDUCTOR - BARE.

49. Bare conductors without any insulating covering may be used indoors for;

Travelling Cranes. (a) As collector wires for travelling cranes and similar appliances, but they must be so supported upon insulators as to prevent contact between the conductors themselves, or between the conductors and the walls or the structural or other metal work, should a collector wire be displaced from any insulator. The insulation at each straining point (i.e., at the end of each wire) must consist of two strain insulators placed in series. The current must be under complete control by means of a switch and a fuse, or a switch-fuse, in each supply conductor. Lightning arresters must be fitted if the bare wiring extends to an exposed

position in the open.

Locomotives, Jib Cranes.

(b) As trolley wires for locomotives, jib cranes, and similar appliances, but they must be insulated by means of two strain insulators placed in series between each wire and "earth" at their points of support. Wall rosettes or brackets used as supports for span wires should not be fixed within one foot of any gas-pipe. Controlling switches and fuses, or switch-fuses, and lightning arresters must be provided as under (a) above.

Batteries.

(c) As battery connections, but such conductors must be well spaced, from each other and from all structural or other metal work, and be rigidly supported on insulators.

Other Purposes.

(d) For other purposes, under special circumstances and in positions inaccessible to unauthorized persons, but with the approval of the Chief Electrical Engineer or his representative.

50.

Metallic tubing up to departmental meter.

JOINTS AND CONNECTIONS.

Joints constitute a source of weakness and should be avoided wherever possible. No joints or tapes are permissible between departmental meter and service entry. A continuous length of metallic tubing or conduit must be employed to enclose the conductors between service entry and departmental meter.

Joints.

51. Joints, when unavoidable, must be accessible for inspection, and they must be mechanically and electrically perfect to prevent undue heat being generated. All joints must be soldered. Soldering fluids containing acid, or other corrosive substances, must not be used.

Junction Boxes.

52. Junction-boxes must be so constructed that -

(a) the conductors cannot be readily short-circuited;

(b) the insulation between opposite poles is rigid and durable;

(c) the connections do not heat;

(d) if used in damp places, moisture is excluded by efficient means.

Jointing Conductors.

53. In jointing conductors the braid, tape or lead, must be carefully removed without damage to the remaining dielectric or conductor and for a sufficient length to ensure a

through union between the dielectric and the material used to insulate the joint. If the insulating material is not water-proof, it must be covered with an impervious sleeve or box, which must make a water-tight joint on each side of the junction. Great care must be taken to exclude moisture during the operation.

Looping.

54. Looping should be employed wherever possible to avoid joints on small conductors.

Connections at Terminals.

55. Where conductors are connected to switches, fuses, junction-boxes, or other appliances, the whole of the separate wires forming the stranded or flexible conductor must be contained within the terminal. The dielectric must not be bared back further than to allow the conductor to enter the terminals properly

Water proofing at Terminals.

56. With dielectrics of Class B, the exposed ends of conductors, where they enter the terminals of switches, fuses, and other appliances, must be protected from moisture which might creep along

the insulating material within the waterproof sheath.

The strands of conductors of Class B should be soldered to prevent moisture creeping along the copper beneath the insulating material.

Soldering to Lugs.

57. Conductors of larger sectional area than that of 7/18 S.W.G. must be soldered to proper lugs for connection. Where there is any possibility of mechanical stresses on the lugs the conductors must be secured by set screws in addition to soldering.

SWITCH AND DISTRIBUTION BOARDS.

Position and construction.

58. Main and distrubution switch and fuse boards must be firmly fixed in a dry situation, and be so arranged that a fire thereon cannot spread, whether occurring at the front or back. Their bases must be of insulating material, with moisture-proof bushes fitted at the points of support if the material is hygroscopic.

The possibility of a permanent arc must be prevented either by sufficient spacing of all live parts, or by the use of separating partitions made of incombustible and insulating material.

Accessibility.

59. Switch and fuse boards must be so constructed and placed that all their parts which may have to be adjusted or handled are readily accessible.

Terminals.

60. Terminal connections on main boards must be permanently accessible from either the back or front of the board; they must be symmetrically placed and spaced apart. They must be so proportioned that there shall be no appreciable rise of temperature when the current flows through them, and be so arranged that the course of every conductor may, where necessary, be readily traced. Provision must be made to prevent the access of acid fumes from batteries to the board.

Batteries.

Lables.

61. Switchboard circuits should be labelled for identification, and the capacity of fuses marked thereon.

Fuses.

62. No open-type fuses shall be placed at the back of switchboards.

Metal cases of instruments.

63. The cases of instruments, if metallic, must be insulated from the circuits or securely grounded.

Fuses.

64. Every voltmeter or pilot lamp with its connecting wires should be protected by a fuse on each pole.

Combination Boxes.

65. Combination switch and fuse boxes must be so arranged that it

Bow cut-outs.

is possible to operate a switch without uncovering the fuses, if of the open type. Bow cut-outs shall not be placed in distribution boards, containing more than one circuit; but can be used on branched circuits

Fused Metal.

(66) When fuses are of open type and grouped together, the case of the distribution board will be a sufficient protection from the fused metal provided the distance from cover to fuse exceeds 2 inch with glass-fronted cases. If made of wood, the case must be protected with fire-resisting material, and a clearance of 3 inches should be provided.

(67) Switches and Circuit Breakers.

Switches and Circuit breakers (paras 27 and 28) whether fixed separately or combined with lampholders or fittings, must comply with the following requirements:-

Overheating

(a) Overheating must not take place at the point of contact or elsewhere, when the full current flows continuously.

Size.

(b) They must not form a permanent arc when breaking circuit. Switches should withstand pressures and

comply with the following requirements:-

Overheating. (a) No overheating of any part must take place when the full current flows continuously.

Size. (b) They shall effectually interrupt the current when a short-circuit occurs, and also when the current through them exceeds the working rate by 50 per cent. They must in all cases be so proportioned to the current to be carried that no conductor protected by them can be raised in temperature above that specified in paragraph 33.

Terminals. (c) The terminals must be of sufficient capacity to avoid heating, and so spaced apart or screened that an arc cannot be maintained when the fuse is blown.

Bases. (d) The bases must be of incombustible non-conducting, and moisture proff material.

Covers. (e) Unless placed in an engine-room or in a compartment specially arranged for the purpose, fuses must have

covers to retain the fused metal. The covers must be of incombustible material, and must either be non-conducting or of rigid metal lined with insulating incombustible material, and clear of all live parts. Small, close-fitting covers should be perforated for ventilation.

Wall Sockets etc.

(f) Fuses must not be placed in wall sockets, ceiling roses, lampholders, or connectors.

Pressures over 125 volts.

(g) Separate single fuse blocks, and not multiple fuse-blocks must be used on circuits where the pressure exceeds 125 volts.

Branch Fuses.

69. Branch fuses must be grouped together in accessible positions in sight, and should be symmetrically placed and labelled for each circuit.

Note:- Hard metal is recommended for fuses. Soft metal fuses should be soldered to hard metal contact pieces. As a practical guide, fuses may be considered too large if they are not perceptibly warm to the touch when carrying full load, and too small if they hiss when moistened. Precautions against shock must be taken when applying this test.

Plug Connectors..

Construction and Fixing.

70(a) Plug connectors (paras 27 & 28) must be capable of withstanding a test with pressure and current 50 per cent. in excess of those for which they are intended. Fixed connectors must have incombustible bases, and in damp places special-water-tight connectors must be used. Where the fixed part of a connector is attached to a floor it must be so arranged that no dust or water can accumulate, that all contracts are well below the floor-level and that any possibility of danger from contact with live metal and carpets etc. is avoided. Provision should be made to facilitate inspection.

Plug connectors must be constructed so that they cannot be readily short-circuited. Clearances should be such that an arc cannot be started if the connector is pulled out while the current is flowing.

Flexibles for portable fittings must end in a plug connector.

Switches.

70. (b). Every plug connector or group of connectors must be independently controlled by a fixed switch on the live side of the connector. To avoid

of ample size and must have no sharp angles or projecting edges, which are liable to damage the insulating material, and the open ends should be bushed. Special fixture wires and not flexible twin cord should be used for internal wiring of fittings.

Joints.

73. Where possible, the conductors should be carried without joints through the fittings to the lamps; but where connections at the fittings are unavoidable, special care must be taken to make the joints equal in conductivity and insulation to the rest of the work (par-42).

Gas-pipes.

74. If dis-used gas-fittings are adapted for electric light, they must be entirely disconnected from the pipes carrying gas. Combined gas and electric fittings must not be used.

LAMPHOLDERS.

75. Lampholders (paras 27 and 78) must-

(a) be incombustible;

(b) be specially designed if for currents above 1½ amperes;

(c) not be hung from flexibles exposed to the weather

(d) not contain a switch if for pressures above 250 volts.

Wall switches.

(e) Lampholders must preferably be controlled by a wall-switch.

ARC LAMPS.

76. Arc lamps (par.27) must-

(a) be guarded by lanterns or globes arranged to intercept falling particles of carbon;

Globes and Guards.

Note:- Lanterns or globes may be dispensed with where an open arc is essential, as in photography, and where no combustible material is present, as in a foundry; but the flooring immediately under the lamp, if of a combustible nature, must be protected from falling particles of carbon. Open inverted arc lamps, in the presence of combustible matter, must have metal reflectors rigidly attached beneath the arc, which at all times must be below the level of the upper edge of the reflector. The reflector must project at least 15 inches measured horizontally beyond the arc on all sides.

(b) be insulated from their support;

(c) be fixed so that their cases cannot come into contact with any metallic object;

(d) have their leading in wires protected from rain;

(e) be controlled bylinked switches and protected by a fuse on each pole.

INCANDESCENT LAMPS.

77. Incandescent lamps must-

Combustible materials.

(a) not be placed in close proximity to combustible materials unless specially protected; shades made of combustible materials must be kept free from contact with the lamps and their holders by suitable guards or supports; celluloid or similar material must not be used for shades and candle tubes;

Guards.

(b) be fitted with guards if placed in positions where goods are liable to be stacked in contact with them;

Inflammable gases and dust.

(c) with their holders, be enclosed in air-tight fittings of thick glass, if placed in positions where they are exposed to inflammable vapour or gas, or to excessive dust or flyings.

Caps.

78. Lamp caps or bases of which the insulating material is hygroscopic must not be used in damp places unless the lampholder is insulated from its support.

Nernest Lamps.

79. Lamps of the Nernest type must comply with the requirements of paragraphs 27, 76 (a) (b) (c) (d) & 77.

ELECTRIC COOKING AND HEATING APPLIANCES.

80. Heaters (pars. 23 (b) & (c)) must be

Overheating.

(a) so constructed and mounted that their supports and connections cannot become over-heated, precautions being taken with regard to their surroundings as in the case of non-electrical heating appliances. They must not be placed in close proximity to combustible materials, unless suitably protected. The frames of fixed heaters must be grounded.

Lamps and heaters on separate circuits

(b) It is preferable to run separate circuits for large heaters so as not to impair the voltage regulation on lamp circuits

Switches.

(c) independently controlled by a fixed switch on the live side of the connector, the connectors being so arranged that the live end of the coupling is not exposed to accidental short-circuiting or injury.

Fuse and Wall Switches

81. Radiator circuits must be protected by a fuse on each pole and by a wall-switch in each room.

RESISTANCES, CHOKING COILS, AND ALTERNATING CURRENT TRANSFORMERS.

82. The live parts (para27) of the above must be-

Supporting

(a) carried on frames or supports and enclosed in cases These frames, supports and cases must be of incombustible material efficiently insulated from the conductors and grounded.

Ventilation of Cases.

(b) amply ventilated or oil-coiled. Where there is danger of inflammable dust or flyings entering, apertures in the cases must be protected by fine-mesh wire guaze or by finely-perforated sheet metal;

Size.

(c) so proportioned that their cases cannot attain a temperature exceeding 176° F (80°C)

Combustible Materials.

(d) so fixed that no unprotected combustible material is within 6 inches of the frames or case containing them, or within 24 inches measured vertically above them.

DYNAMOS AND MOTORS.

83. Dynamos and Motors (par 27) rated at more than one-third of a horse power must comply with the following requirements:-

(a) They must be protected from damp, dust, and mechanical injury.

Combustible Materials

(b) They must be so placed that all unprotected wood work or combustible material are kept at a safe distance from them unless the machines are of the totally enclosed type.

Wood Floors.

(c) When mounted upon or above wood flooring, unless of the totally enclosed type or of the induction type with no exposed sliding contacts, they must have a sheet of metal inserted between them and such flooring.

Inflammable Dust.

(d) Dynamos must not be installed in positions exposed to inflammable dust or flyings, or where combustible materials are manipulated or stored; motors installed in such positions must be either of the totally enclosed or of the ventilated type, provided that any ventilating openings in the cases of continuous current machines are protected by fine-mesh wire gauze or by finely perforated sheet metal, and that all slip-rings, commutators and brushes are totally enclosed. Induction motors may have unprotected ventilating holes in their metal cases, but slip rings or brushes or any sliding contacts must be completely enclosed in metal cases.

The Chief Electrical Engineer or his representative should be consulted where conditions make dynamo and motor installations extremely productive of Fire-risks.

(e) Each single phase machine must be controlled by a switch and a fuse, or by a hand-grip fuse, or by a circuit breaker, on one conductor; and by one of these devices on the other conductor,. Each polyphase machine must be controlled by a linked switch and separate fuses in each conductor or by a linked switch fuse or linked circuit breaker.

Starting gear

(f) Continuous current Motors above 1/3 H.P. and A.C. Motors above 5 H.P. must be provided with suitable starting gear with no volt release.

Earthing

(g) The frames of Dynamos and motors and their control gear must be securely grounded.

Terminals

(h) These shall be so constructed that they are efficiently protected by a metal cover or an equivalent device.

ACCUMULATORS AND OTHER BATTERIES.

Ventilation. 84. (a) The room in which accumulators or primary batteries are placed must be well ventilated (par.27)

Insulation. (b) The case of each cell must be efficiently insulated from earth. Glass cells should have an intermediate support to distribute the strain.

Connectors (c) Bare conductors (par.49 (c)) should be used for end and regulating cell connections; and all regulating cells must be protected by a fusible connector at each cell.

Control (d) The method of control must be as described in paragraph 83 (e)

EXTERIOR WIRING.

Section III.

Underground Cable.

85. (a) When the consumers premises is situated on the farther side of the road along which the departmental service mains run, the consumer shall use underground cable of standard specification (see para 40)

Grounding the sheaths

(b) The cable shall be buried at least 3' underground whenever a public road is -- crossed, and must be taken under drains and water pipes, where possible. The armouring and lead sheathing of these cables, shall be thoroughly grounded if they are liable to be in contact with any surface metal work.

Junction Boxes.

(c) The consumer shall install two metal junction boxes of the approved water and moisture proof type, one on the departmental pole, and the other in the premises and these shall be filled with bitumen or other suitable insulating compound.

All junction boxes shall have suitable insulating bushings for the protection of service wires. Sharp bends in cables should be avoided.

Excavation in Roads.

86. Before a public highway is excavated, sanction of the Municipality must be obtained and their rules regarding refilling and replacement of pavement must be observed.

Crossing of roads by overhead wires.

87. Overhead wires shall not be allowed to cross important roads, and the consumer shall, in all cases, obtain the sanction of the Chief Electrical Engineer to cross a road by means of overhead wires.

Spacing between overhead wires.

88. Whenever a consumer's overhead supply mains cross a road, the wires shall not be lower than 21 feet measured vertically from the ground, and the spacing between conductors shall not be less than 24" for a two-wire system, and 16" for a three wire system. These wires must be kept clear of trees.

Double cross-arm

89. The consumer shall install a double cross-arm on the departmental pole to avoid placing all the strain on one set of pin insulators

Service lines on consumer's premises.

90. All portions of a service line on a consumer's premises, shall, unless inaccessible without the aid of a ladder or other special appliance, be continuously covered with insulating material and thoroughly protected against injury to the insulation or access of moisture and any metal forming part of the electric circuit shall not, unless connected with earth, be exposed so that it can be touched.

Size of overhead wire.

91. Bare overhead wires should be of hard-drawn copper and not smaller in section than that of No.10 S.W.G. or No.8 B. and S. If insulated lead covered copper wire be used, it shall be efficiently suspended from a messenger wire, by means of insulating hangers spaced not more than 3' apart. The messenger wire, if made of iron or steel, should be galvanized.

Height of an aerial line above ground.

92. The aerial line in a consumer's premises shall not be lower than 15 feet from the ground and must be kept free from trees, branches, vines or other obstructions by at least 5 feet.

Spacing of supports for an aerial line.

93. The conductors of every aerial line erected by the consumer, in, over, along or

across any street, or in consumer's premisses, shall be attached to supports at intervals not exceeding 125 feet.

U-Guards.

94. The conductors on the consumer's pole nearest the departmental pole shall be protected by U-guards.

Tappings.

95. No service line or tapping shall be taken off an aerial line otherwise than at a point of support.

Guard Structures

96. When the consumer's aerial line is in proximity to or crosses a telephone or telegraph wire, the consumer shall guard such wires.

Section 1V.

T E S T I N G.

Insulation Resistance to earth.

97. The insulation resistence to earth of the whole or any part of the wiring must, when tested previously to the erection of fittings and electrolliers, be measured with a pressure not less than twice the intended supply pressure, and must not be less in megohms than 30 divided by the number of outlets under test. For this purpose the outlets are to be counted as the number of pairs of terminal wires from which it is proposed to take the current, either directly or by flexibles to lamps or other appliances.

98. (a) Current must not be switched on until the following test has been applied to finish work:-

Testing of Circuits.

The whole of the lamps having been connected to the conductors, and all switches and fuses being on, a pressure equal to twice the supply pressure must be applied, and the insulation resistance of the whole or any part of the installation to earth must not be less in megohms than 25 divided by the number of outlets. When all lamps and appliances have been removed from the circuits, the insulation

resistance between conductors must not be less than 25 megohms divided by the number of lamps. The insulation of any individual sub-circuit (par.23) must not fall below 1 megohm. Any motor, heater, arc lamp, or other appliance may be connected to the supply of electrical energy provided that the insulation of the parts carrying the current, measured as above, is not less than 1 megohm from the frame or case When the test is carried during rainy season, the insulation resistance must be at least 75% of that specified above.

Earthing. 98. (b). A test for continuity of metal casings and for effeciency of earthing will be required and it must be possible to ring a two-volt bell set when the bell is connected between the most distant length of piping and a water pipe or other earthed metal

Inspection. 99. The value of systematically inspecting and testing fuses, apparatus and circuits cannot be too strongly urged. Records should be kept of all tests, so that any gradual deterioration of the system may be detected. Cleanliness of all parts of the appratus and fittings is essential.

Repairs. 100. Before making any repairs or alterations, the circuits which are being attended to must be entirely disconnected from the supply mains.

Wiring Rules continued.

Section V.

For securing the safety of the public and ensuring a reliable service in Power Installations where the pressure does not exceed 3000 v

---:(0):---

The rules (para 1,—100) regulating the installations of electric lights and small domestic appliances consuming electrical energy will also apply to applications of electricity to industrial purposes, with suitable additiona precautions that may be necessary to deal with higher voltages and currents.

Seperate lighting and power circuits.

101. Unless otherwise stated in the contract for the supply of electrical energy, the consumer shall not tap his power circuit for lighting; except for pilot lamps for switch boards; the two circuits with their independent meters shall be kept distinct throughout.

Main switch.

102. A linked main switch and a safety fuse in each service line or a linked automatic circuit breaker must be placed within a consumer's premises as close as possible to the point of entry of the service lines, the switches and fuses being enclosed in a receptacle of fireproof construction. No single pole fuse or single pole automatic circuit breaker shall be inserted in the neutral conductor of a three wire system.

Independent control of each motor.

103. Every motor, converter, transformer or bank of transformers shall be protected by efficient means suitably placed and so

connected that all pressure may thereby be cut off from the respective apparatus and from all starting or regulating apparatus in connection therewith. In specially exempted cases, such as a crane or a tool operated by several motors, then one switch to control the whole will be allowed.

Earthing. 104. All metallic sheaths and coverings of cables, switchgear frames and handles, joint boxes, fuse and instrument covers, frames and bedplates of generators, transformers and motors and other pieces of metal serving as mounting or enclosures for live conductors shall be securely earthed. (see pra. 26).

Switchgear. 105. The general arrangement of switchgear shall be such that-

(a) All parts which may have to be adjusted or handled are readily accessible,

(b) Conductors are kept well apart so that they can be easily distinguished and traced,

(c) All bare conductors and terminals are so placed and protected as to prevent danger from accidental short circuit or contact with unauthorised persons.

(d) Suitable precautions are taken and proper clearances maintained that the functioning of the gear under normal and abnormal conditions will not be productive of fire and other risks.

The use, wherever possible, of iron-clad switch gear is greatly recommended.

Flexible cables.

108. (a) Flexible cables for portable apparatus shall be two-core or multi-core and covered with insulating material which shall be efficiently protected from mechanical damage. If a flexible metallic covering be used as a means of protection from mechanical damage the same shallnot alone be used to form an earth conductor for the portable apparatus.

(b) Every flexible cable for portable apparatus shall be connected to the system and to the portable apparatus itself by a properly constructed connector.

(c) At every point where flexible cables are joined to main cables a switch capable of entirely cutting off the pressure from the flexible cables shall be provided.

(d) Leads for portable lamps and apparatus in boiler rooms or other places exposed to moist steam or injurious chemical fumes must, in all cases, be flexible armoured cable and the armouring should preferably be securely grounded.

(e) No lampholder shall be in metallic connection with the guard or other metal work of a portable lamp.

Lightning arresters.

109. Where any portion of any electric line on the consumers premises or any support for such line is exposed in such a position as to be liable to cause injury from lightning, an approved form of lightning arrester shall be installed to protect against such liability. The Chief Electrical Engineer or his representative should be consulted in such cases.

Tests.

110. Current shall not be switched on to a power installation until the following tests have been applied to finished work.

[redacted] earthing.

(a) The efficiency of earthing, and the continuity of metallic parts that should be earthed, shall be tested.

Insulation Resistance.

(b) The insulation of every complete circuit or part of the circuit used for the supply of energy, including all machinery, apparatus and devices forming part of, or in connection with that circuit shall be such that the leakage current shall not under any conditions exceed one ten-thousandth part of the maximum supply current to the said circuit; the leakage current for the working pressure will be calculated from the insulation resistance measured by impressing an E.M.F. of not less than 500 v.

High pressure test.

(c) In systems where the pressure does not exceed 650 V, the insulation of every line and apparatus in connection therewith must withstand the continuous application, for 5 minutes of a pressure twice the maximum pressure to which the line and apparatus are intended to be subjected in use. In systems where the pressure exceeds 650 volts but does not exceed 3000 volts, the break-down test shall be made with a continuous application, for 1/2 an hour, of a pressure twice, in the case of every line, and in the case of every machine, device, or apparatus, 50% greater than the maximum pressure to which they are intended to be subjected in use.

Systematic tests.

The need of frequent and systematic inspection and tests is even more imperative

in power installations than in house lighting circuits, where conditions of service do not usually occasion a rapid deterioration ~~depreciation~~. Every possible precaution must be taken for the safety of the operatives and suitable signboards must be put up wherever necessary to warn unauthorised persons against handling line or apparatus. In places where the application of electricity is attended with unusual hazards, the recommendations of the Chief Electrical Engineer or his representative should be strictly followed.

S. Mahadeva Iyer
Chief Elec Engr.
Govt of Mysore
Bangalore

Number of wires and gauge in S.W.G. or inches. diameter.	Nominal sectional area of conductors in square inches.	Conductor resistance in standard ohms per 1000 yards.	Maximum current permissible in Amperes.		Minimum Insulati resistance of on mile in Megohms 60° F.	
			Rubber insulated cables. (CLASS A)	Paper or fibre insulated cables. (CLASS B)	Vulcanized rubber 2500 megohm. grade. (CLASS A)	Paper or fibre (class) B.
1.	2.	3.	4.	5.	6.	7.
~~Fittings wire~~ fittingswire 3/24	.0011	21.50	4.5	4.5	4500	140
1/18	.0018	13.29	7.2	7.2	5000	140
1/17	.0025	9.761	9.8	9.8	5000	140
1/16	.0032	7.47	12.9	12.9	5000	140
1/15	.0041	5.905	16.3	16.3	4500	140
1/14	.0050	4.783	19	20.1	4500	140
7/21	.0055	4.343	21	22.1	4500	140
7/20	.0070	3.431	24	28	4000	140
7/19	.0086	2.779	28	34.6	4000	140
7/18	.0125	1.930	34	50.0	4000	140
19/20	.019	1.266	43	69	3500	140
7/.068	.025	0.9618	50	81	3500	140
7/15	.028	0.8578	53	86	3500	140
7/14	.035	0.6949	60	97	3500	120
19/.058"	.050	0.4880	74	120	3000	120
19/16	.060	0.4007	83	135	3000	110
19/.072	.075	0.3167	97	157	3000	110
19/.083"	.100	0.2383	118	191	3000	100
19/.092"	.125	0.1940	134	219	3000	90
19/.101"	.150	0.1610	152	246	3000	90

Notes:-

The current carrying capacities of conductors as given in columns 4 a a temperature rise of 20° F for rubber insulated cables and 50° F for pape working conditions in this climate. Due allowance must however be made of the surrounding air above the assumed maximum. The conductors must, in Multiple core and concentric conductors have to be rated more liberally th

It must not be assumed that the maximum currents given in columns 4 a determining factor is the drop in volts (para30).

For purposes of reference, the nearest sizes of solid wires are tabul

B L E.

Minimum radical thickness in inches.			Nearest size of solid wire.			
Vulcanized rubber. (Class A.)	Paper or fibre (class) B.	Lead sheath.	Guage number in S.W.G.	Sectional area in square inches.	Guage number in B. & S.	Sectional area in square inches.
8.	9.	10.	11.	12.	13.	14.
.062	-	-	19	0.00125	18	0.00127
.062	-	-	18	0.0018	16	0.00202
.062	-	-	17	0.00246	15	0.00255
.062	-	-	16	0.0032	14	0.00322
.062	-	-	15	0.00407	13	0.00406
.062	-	-	14	0.0050	12	0.00512
.062	-	-			11	0.00646
.062	-	-	13	0.0066	10	0.00815
.062	-	-	12	0.0084	9	0.01028
.062	.080	.060	10	0.0128	8	0.0129
.062	.080	.060	8	0.0201	6	0.0206
.062	.080	.060	7	0.0243	5	0.0260
.062	.080	.060	6	0.0289	4	0.0327
.062	.080	.060	5	0.0353	3	0.0413
.062	.080	.060	3	0.0498	2	0.0521
.066	.080	.070	2	0.0598	1	0.0657
.066	.080	.070	1/0	0.0824	1/0	0.0828
.071	.090	.070	2/0	0.0951	2/0	0.1045
.076	.090	.070	4/0	0.1257	3/0	0.1318
.080	.090	.080	5/0	0.1466	4/0	0.1662

5 are based on a maximum temperature of the surrounding air at 100° F and
)r fibre insulated cables. These are assumed to represent the average
the method of enclosure or the place of installation fixes the temperature
) case, be worked above the permissible temperatures as stated in para (38)
single conductors.

5 are always permissible, especially for lighting circuits where the

)d both in the standard English and American gauges.

G. R. S. VI—G/32]

SUBJECT.....

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Diary No. of letter replied to.....

Section

File No.

Serial No.

GENERAL AND REVENUE SECRETARIAT,

( )

, the *191*

No.

Date of issue.....

Signed by.....

To The Secretary to the Govt of Mysore
P.W.D epartment

Sir.

In sending you herewith the copy
(Plans examined to the Electricity Rules and ~~letter~~ received with your letter No C/s 65-78/12.9.18
of the Indian Electricity Rules above
~~to the Station~~ I am directed to request
send two copies
you to ~~get a copy~~ of the plans for one
forwarded to the Residency with
one for reference in this office

I have etc

Hs
2-12-18

for Sec'y

Issued 4-12-18
Hs

Telegraphic Address: *Stateworks*

No. D 2714/13709

16745

Encl: 6 Blue Prints

MYSORE P W. DEPARTMENT.

CENTRAL OFFICE.

Bangalore,.....6th...December..*191* 8.

From

KARPUR SHRINIVASRAO, Esq., B.Sc., M.C.E.,

The *Secretary to the Government of Mysore,*

Public Works Department.

To

C.S.Palasundaram Iyer,Esq., B.A.,

Chief Secretary to Government,

Bangalore.

Sir,

As desired in your letter No.144/T.C. of 1918 dated 4th December 1918, I have the honour to forward herewith two copies each of the plans to be annexed to the Electricity rules.

2. The plans received with the letter quoted above are also returned.

I have the honour to be,

Sir,

Your most obedient servant,

R V Sundaramma

Deputy Secretary to Government,

P. W. Department.

WD 02892—GPB—5500- 11-1-17

191

MYSORE P. W. DEPARTMENT.

No.

From

To

Dated Bangalore, *191*

Despatched

Enclosure No.

Subject.

Pol. 771

To Secretary of Rules with 2 plans & copy of a Note 8-8-2-19

The F.A. Resident in Mysore,

BANGALORE.

Sir,

Adverting to para 3 of this offi letter No. Pol.936 dated 22nd May 1914 in the matter of extending the Indian Electricity Rules to the C & M Station Bangalore, I am directed to forward herewith a draft of the rules which are in force in the State and which the Chief Electrical Engineer proposes for adoption in the C & M. Station also.

2. The points of difference between these rules and the rules under the I.E. Act are ennumerated in the Chief Electrical Engineer's note enclosed herewith.

It is seen that the points of difference are not confined to rules 35 to 100 alone, but ~~comprise~~ relate to other rules also of the Act. This appears unavoidable on account of the peculiar nature of the case, the Government of Mysore, and not any private party being the supplier of the power.

As suggested by the Chief ~~Electric~~ Electrical Engineer in para 13 of his note, I am to commend for the consideration of the Hon'ble the Resident the formation of a Committee to deal with the question.

I have &c

R.D.

List of Enclosures
Copy of Rules with 2 plans
1 copy of a note
2

18.11.18
Leo

Legis 40-12-16

24/8/18
CA: Eng

Pol 331 4701

ENCLOSURES ONE.

R. O. 2.—R. P. B.—2-1919.—2,000.

No. 6897

FROM

C.T.C. PLOWDEN,
MAJOR ~~I.A.~~ I.A.
FIRST ASSISTANT TO THE RESIDENT IN MYSORE.

To

The Chief Secretary to the Government of
His Highness the Maharaja of Mysore.

Dated Bangalore, 8/9 September *19* 19

SIR,

With reference to your letter No.Pol.771, dated 5th February 1919, regarding the extension of the Indian Electricity Rules to the Civil and Military Station of Bangalore, I am directed to forward a copy of a letter No. 5730, dated the 21st August 1919, from the Collector, Civil and Military Station and to request that the information asked for therein may kindly be furnished.

I have the honour to be,

Sir,

Your most obedient servant,

First Assistant Resident

Letter No. 5730, dated the 21st August 1919, from the Collector, Civil and Military Station, Bangalore, to the First Assistant to the Resident in Mysore, Bangalore.

****

I have the honour to return the enclosures forwarded with your No. 1777 dated the 6-8-1919 regarding the Electricity Act.

2. I am not sure that I fully understand the correspondence. The Chief Electrical Engineer (vide para 17 of his note) seems to desire the supersession of Act IX of 1910 as applied to the Station, the Durbar on the other hand, seem to refer to rules only. Again. the Chief Electrical Engineer refers (para 4 of his letter) to putting "Act of 1911" (Sic) into force. I find the correspondence very confusing.

I am not aware that any rules have been issued by the Hon'ble the Resident under Act IX of 1910, but rules exist under the old Act of 1903. I suggest that it be made clear whether the object of the Durbar is to frame new rules, to introduce new legislation, or to amplify existing rules under the existing Act to protect the consumers.

I would approach Major A.J. Andrews to act on any committee to be formed, the Durbar to propose a third member who is to be mutually agreed on.

****

COPY

REGISTRAR

Resident's Office.

T.S.

G. R. S. VI—G/32]

SUBJECT.....

.....

.....

Diary No. of letter replied to.....

GENERAL AND REVENUE SECRETARIAT

( )

, the *191*

Date of issue 2/1/20

Signed by W. E. B. [illegible]

Section Legs

File No. 40-12

Serial No. 18

D O

No. 14874

To

Dear Sir,

In connection with a proposal ~~to appoint~~ to appoint a commission of three members (one to be appointed by the Government of India, one to be appointed by the Durbar and third to be mutually agreed upon by the [illegible] to consider the question of introducing the [illegible] Indian electricity [illegible] in Cutch

over.

station with such modifications
as will bring them into line
with those in the city, &c.
I am desired to state that
it is proposed to nominate
you as the third members to
be mutually agreed upon, by
the ~~Government and the Station authorities~~
Engineer and to request-
u to kindly intimate
letter you will be
willing to serve in the Committee

Yours sincerely,

2

List of enclosures.

Rao Bahadur K. P. Puttannachetty Esq.,
Hon. President Bangalore City Municipality

Ans 4/12

Copied by

Examined by

W D86 - G.P.B. -60,000 - 15-11-16

D. O.

CITY MUNICIPAL OFFICE,
BANGALORE,

Dated 3rd Jan 19 20

12265

SECTION Lics
FILE No. 40-12
SERIAL

PROTECTION BRANCH.
6- JAN 1920

My dear Sir,

I am in receipt of your D O letter No 14874 - 40 1248 of 2d instant asking me to serve as the 3d member of the Committee which will consider the question of electricity Rules in the Civil & Military Stations I beg to state that I am willing to serve on

Legs 40-12

To

The First Assistant Resident.

Sir,

With reference to your letter No. 6897 dated 8th September 1919 forwarding copy of letter No. 5730 dated 21st August 1919 from the Collector, Civil and Military Station, for furnishing the information required therein regarding the extension of the Indian Electricity Rules to the Civil and Military Station of Bangalore,

Pol 827

Dated 29 January 1920

I am directed to invite ~~your~~ kind reference to paragraph 2 of this office letter No.Pol.936/Legis.40-12-2 dated ~~29th~~ 22nd May 1914, from which it will be seen that the object of the Durbar in urging for a relaxation of the Government of India rules under the new Act is to provide for the application of the same set of rules both in the City and the Civil and Military Station, Bangalore, as well as in

If necessary, Pol Legislation will have to undertake —

I am further to invite kind reference to the last para of this office letter No. Pol. 771/Legis.40-19-16 dated 8th February 1919 re. the appointment of a Committee to deal with the question and to state that the Durbar propose to nominate Mr., as its representative. With respect to the proposal to appoint a third member to be mutually agreed upon, the Durbar would suggest the marginally noted names of gentlemen for the consideration of the Hon'ble the Resident.

Mr. Farber. Ch. Sec.

Mr. K. P. Sreenivasa Chetty
Mr. C. S. Doraiswamy Iyer
(Judge Chief Court)

13.12.19

I have etc.,

CP

Chief Secretary to Gov